| **Logbook**  Chelsea H Liao  Louis Riel School |
| --- |

Jun 13, 2023

* Ideas
* Meta-analysis or scientific literature review?

Edited on: Aug 9, 2023

META-ANALYSIS

[Meta-Analysis - Study Design 101](https://himmelfarb.gwu.edu/tutorials/studydesign101/metaanalyses.cfm)

What is it: “A method for systematically combining pertinent qualitative and quantitative study data from several selected studies to develop a single conclusion that has greater statistical power. This conclusion is statistically stronger than the analysis of any single study, due to increased numbers of subjects, greater diversity among subjects, or accumulated effects and results.” - [Meta-Analysis - Study Design 101](https://himmelfarb.gwu.edu/tutorials/studydesign101/metaanalyses.cfm)

Used for:

* To establish statistical significance in trials with contradictory results
* To generate a more accurate estimation of the magnitude of the effect
* To provide a more detailed review of risks, safety data, and benefits.
* To investigate subgroups with non-statistically significant individual numbers

#### Advantages

* More statistical power
* Data confirmation analysis
* Greater capacity to extrapolate to the impacted general population
* Regarded as an evidence-based resource

#### Disadvantages

* Finding relevant studies is difficult and time-consuming.
* Not all studies supply sufficient data for inclusion and analysis.
* Advanced statistical approaches are required.
* Population heterogeneity in the research

Jun 16, 2023 Edited on: Aug 9, 2023

SCIENTIFIC LITERATURE REVIEW

[Scientific Literature Review](https://www.dcu.ie/sites/default/files/students_learning/scientific_lit_review_workshop_ug.pdf)

What is it: “A critical account of what has been published on a topic by accredited researchers.” - [Scientific Literature Review](https://www.dcu.ie/sites/default/files/students_learning/scientific_lit_review_workshop_ug.pdf)

Used for:

* Provide a clear statement of the topic (scope).
* Provide a variety of research on the subject.
* Analyse a chosen issue critically utilizing a documented body of knowledge (backed-up arguments).
* Give an indication of what additional research is required.
* Identify areas of disagreement/controversy in the literature.

“The purpose of a literature review is to gain an understanding of the existing research and debates relevant to a particular topic or area of study and to present that knowledge in the form of a written report.” - [Literature review purpose](https://www.westernsydney.edu.au/__data/assets/pdf_file/0006/1254786/Literature_review_purpose.pdf)

* Now I know what the two of them are. It looks like a meta-analysis will require me to learn statistics. With both, I will need to read research and studies done by others in the field, as well as be able to process, think critically and draw a conclusion.
* Systematic review

I now need a topic. I think it would be interesting to select a topic that's well-researched but still relatively new. I really love medicine, so I’m definitely going to do some stuff in that field.

Interested fields:

* Women’s health (Includes Mental health, Obstetrics, gynecology, etc.)
* Oncology
* Neuro
* Cardio
* Pulmonary diseases
* Dermatology
* I’m open to pretty much all fields of medicine! 😀
* Or other sciences!

Possible topics:

* Investigating Hormone Replacement Therapy (HRT) for those in menopause!
  + What is the current evidence regarding the effectiveness and safety of hormone replacement therapy (HRT) in alleviating menopause symptoms, such as hot flashes, night sweats, vaginal dryness, and mood changes, in postmenopausal women?
    - Already well-investigated

Jun 22, 2023

Edited on: Jul 3, 2023, Jul 5, 2023, Jul 7, 2023

More possible topics:

* What is the diagnostic and prognostic potential of specific miRNAs in endometriosis?
* This article is intriguing: <https://pubmed.ncbi.nlm.nih.gov/26206343/>
  + Define diagnostic and prognostic criteria.
  + Which specific miRNAs should I look at?
    - Should I investigate one or compare multiple? - I could investigate miR - 21 or compare miR - 21 and miR - 200 family.
    - Comparing different patient populations - early-stage endometriosis or advanced-stage endometriosis? There may be more literature on advanced-stage.
  + An idea for a specific question: What is the comparative diagnostic potential of miR-21 and the miR-200 family (miR-200a, miR-200b, miR-200c, miR-141, miR-429) as biomarkers for endometriosis?"
  + Possible to compare miRNA to current biomarker - CA-125?
  + Or just study a miRNA?
    - I would like to study a miRNA that has been relatively well-researched.
  + I don’t know if there are many articles/literature on this topic though

Jun 27, 2023

More possible topics!!! 😀

* What is the comparative effectiveness and safety of GnRH agonists versus GnRH antagonists in the treatment of endometriosis?
* Intriguing article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10145781/#:~:text=Because%20GnRH%20causes%20anovulation%20and,work%20through%20the%20same%20mechanism.>

Jul 6, 2023, Jul 7, 2023

* Looked at possible treatments of endometriosis? I could maybe study one or compare two? https://www.hopkinsmedicine.org/health/conditions-and-diseases/endometriosis
* Aromatose inhibitors in the treatment of endometriosis - I can get 5-6 sources
* Clinical trial released on this subject: <https://clinicaltrials.gov/study/NCT02203331?cond=Endometriosis&intr=aromatase%20inhibitors&rank=2>
* Laparotomy
* Laparoscopic Surgery
  + A lot more literature it seems, there's a lot comparing it to robotic surgery.
  + I could possibly do robot-assisted laparoscopic surgery vs conventional laparoscopic surgery!
  + What are the comparative outcomes and advantages of robotic surgery (includes robot-assisted laparoscopic surgery) versus conventional laparoscopic surgery for the treatment of endometriosis in terms of operating time, blood loss, complication rate, and length of hospital stay? (Red subjected to change)

Jul 13, 2023 Edited on: Aug 13, 2023

My Research Question: What are the comparative outcomes and advantages of robotic surgery (includes robot-assisted laparoscopic surgery) versus conventional laparoscopic surgery for the treatment of endometriosis in terms of operating time, blood loss, complication rate, and length of hospital stay? (Red subjected to change)

Jul 24, 2023

* Background research. Related questions include: What is endometriosis? What is robot-assisted surgery, and how does it work? What is laparoscopic surgery, and how does it work?

BACKGROUND RESEARCH:

Edited on: Jul 24, 2023, Jul 26, 2023, Jul 27, 2023, Aug 1, 2023, Aug 2, 2023,Aug 4, 2023

What is Endometriosis?

* Endometriosis is a chronic disease
* Occurs when endometrial-type tissue grows outside of the uterus and on other areas of the body.
  + New endometrium is grown with the menstrual cycle. However, in individuals that have endometriosis, the body cannot shed the endometrium that is outside the uterus. This causes a buildup of abnormal tissue, leading to inflammation, scarring, and cysts. Can also make the reproductive tissue “stick” together, due to a buildup of fibrous tissues
* Endometriosis occurs in about 10% of reproductive-aged women.
* Currently no known cure - treatments are usually for symptom control

Stages of endometriosis:

| Stage | Description | Characteristics | Point Score Range |
| --- | --- | --- | --- |
| I | Minimal endometriosis | - Superficial implants and mild adhesions | 1 to 5 |
| II | Mild endometriosis | - Superficial or deep implants with mild adhesions  - Widespread endometriosis with deep implants | 6 to 15 |
| III | Moderate endometriosis | - Deep implants present  - Dense adhesions  - Widespread endometriosis | 16 to 40 |
| IV | Severe endometriosis | - Deep implants and dense adhesions present  - More widespread disease than in Stage III  - Indicates severe endometriosis | Greater than 40 |

*Information retrieved from health.com. “What Are the Stages of Endometriosis?” Health, 20 January 2023, https://www.health.com/condition/endometriosis/endometriosis-stages. Accessed 4 August 2023.*

* Four lesion types:
* Superficial endometriosis (found mainly in the pelvic peritoneum)
  + A quick definition: Pelvic Peritoneum - a membrane that lines the abdominal pelvic cavity. It surrounds the abdominal organs, and protects and cushions them. It also holds the organs in place and secretes a lubricating fluid that lessens friction when organs rub against each other.
* Cystic ovarian endometriosis (endometrioma) (found in ovaries)
* Deep endometriosis (found in bladder, bowel, recto-vaginal septum)
* Endometriosis outside of the pelvis (very rare)

Some terms that should be defined:

| Term | Description | Characteristics |
| --- | --- | --- |
| Endometriosis Implants | Endometrial cells growing outside the uterus | - Typically grow outside the uterus  - Spread and grow outside the uterus  - Small and flat lesions |
| Endometrial Adhesions | Clusters of fibrous tissue binding organs | - Form as part of an inflammatory process  - Bind abdominal and pelvic organs together |
| Ovarian Endometriomas | Blood-filled cysts (chocoloate cysts) on ovaries | - Develop from endometrial cells spreading to ovaries  - Cysts turn brown over time |

*Information retrieved from health.com “What Are the Stages of Endometriosis?” Health, 20 January 2023, https://www.health.com/condition/endometriosis/endometriosis-stages. Accessed 4 August 2023.*

* Possible symptoms:
  + Severe pain in the pelvic area (often more noticeable during a period, when urinating, having bowel movements, or having sex). *Most common symptom.*
  + Infertility
  + Heavy bleeding during a period (or in between periods)
  + Bloating
  + Nausea
  + Diarrhea/Constipation
  + Fatigue
  + Depression or anxiety
  + Symptoms improve after menopause, though this is not always the case
  + Some people with endometriosis do not experience any symptoms.

What is laparoscopic surgery?

https://www.nhs.uk/conditions/laparoscopy/

* A type of surgical procedure that lets the surgeon access the interior of the abdomen and pelvis, without needing to make large incisions.
* Also known as a keyhole surgery or a minimally-invasive surgery.
* Large incisions are avoided due to the use of a laparoscope.
* A laparoscope has a light and a camera and relays the images of the insides of the abdomen and pelvis to a screen.
* Advantages of laparoscopic surgery over traditional open surgery:
  + Shorter hospital stay/faster recovery
  + Less pain and bleeding post-op
  + Less scarring
* Laparoscopy can be used for the diagnosis of many conditions that occur within the abdomen/pelvis. Can also be used to carry out surgical procedures (like removing an organ, or removing a tissue sample for biopsy).
* Laparoscopy is most commonly used in these fields:
  + Gynecology
  + Gastroenterology
  + Urology
* During a laparoscopy, the patient is usually put under general anesthesia. Then, the surgeon will make a few small incisions (usually less than 1.5cm), which will let the surgeon insert the laparoscope, other small surgical tools, and a tube (which pumps gas into the abdomen. This helps separate your abdominal wall from your organs and makes organs easier to visualize on the video monitor).
* At the end of the procedure, the gas is let out of the abdomen and the incision(s) are closed.
* Serious complications from a laparoscopic procedure are very rare.
* Minor complications may occur in an estimated 1-2% of patients post-op. These complications include:
  + Infection
  + Minor bleeding/bruising around the incisions
  + Feeling sick and vomiting
* Serious complications, though rare, can occur in about 1 in every 1,000 cases. They include:
  + Damage to an organ, which may result in a loss of organ function
  + Damage to a major artery
  + Complications arising due to the use of carbon dioxide during the procedure, such as the gas bubbles entering the veins or arteries
  + A serious allergic reaction to the anesthetic
  + A blood clot develops in a vein, usually in one of the legs (DVT, deep vein thrombosis), which can break off and cause a pulmonary embolism.
  + Further surgery is often needed to treat these complications.

What is robotic surgery?

* Robotic surgery, also known as robot-assisted surgery is performed using tiny incisions, similar to laparoscopy
* The most widely (Da Vinci) used robotic system includes 3 parts:
  + A surgeon’s console, where the surgeon sits. Inside the console, there are controls that allow the surgeon to manipulate the robotic arms.
  + A patient-side cart with four robotic arms that are manipulated by the surgeon (one for the camera and the other three for other surgical instruments)
  + A high-definition 3-D vision system, which gives the surgeon greater visibility.
* Usually associated with minimally-invasive surgery, though it can be used for traditional open surgeries.
* Advantages of robotic surgery:
  + Minimally invasive - leads to less tissue damage, scarring, shorter hospital stays, less pain and discomfort
  + Enhanced precision and dexterity - robotic hands have a greater range of motion and are more precise than human hands.
  + Steady hands - the machine filters out the hand tremors from the surgeon, which is very important for precise work
  + 3D visualization allows the surgeon to have a better view of the surgical field and make more informed decisions
  + Lower risk of infection - with such small incisions, there is a smaller risk of infection compared to traditional open surgery.
  + Longer Instrument Reach - Robotic arms may be able to reach areas that are difficult to reach with conventional laparoscopic instruments, which lets surgeons perform surgery in smaller spaces more effectively.

Quick Checklist: Edited on: Aug 8, 2023, Aug 9, 2023

* ~~Choose a Specific Topic:~~
  + ~~Select a topic that is focused and relevant to the field of study.~~
  + ~~Make sure there is enough existing research on the topic to review.~~
* ~~Search for Related Literature:~~
  + ~~Use academic databases, libraries, and search engines (e.g., PubMed, Google Scholar) to find peer-reviewed articles, books, and other scholarly sources related to your topic.~~
  + ~~Use specific keywords and search terms to narrow down the search.~~
* ~~Read/Organize Sources~~
  + ~~Review the sources' abstracts, introductions, and conclusions to determine their relevance and quality.~~
  + ~~Create a reference management system (e.g., Zotero, EndNote) to organize and keep track of sources.~~
* Establish a Clear Structure:
  + Introduce the topic and its significance in the context of existing research.
  + Organize your review by themes, methodologies, chronology, or theoretical frameworks.
* ~~Write the Introduction:~~
  + ~~Provide a clear overview of the topic and its importance.~~
  + ~~State your research question or objective.~~
* ~~Summerize/Synthesize:~~
  + ~~Summarize the key findings and methodologies of each source.~~
  + ~~Identify common themes, trends, or gaps in the literature.~~
  + ~~Discuss the strengths and limitations of each study.~~
* ~~Provide Critical Insights:~~
  + ~~Analyze the strengths and weaknesses of the studies beingreviewed.~~
  + ~~Identify areas where more research is needed or where existing research is contradictory.~~
* ~~Maintain a Good Flow:~~
  + ~~Ensure smooth transitions between different sections and sources.~~
  + ~~Use subheadings to indicate the organization of the review clearly.~~
* ~~Conclude and Suggestions for the Future:~~
  + ~~Summarize the main findings and contributions of the reviewed literature.~~
  + ~~Discuss the implications of the research and how it contributes to the field.~~
  + ~~Highlight any gaps in the existing literature and suggest areas for further study.~~
* ~~Citations:~~
  + ~~Use a consistent citation style (AMA)~~
  + ~~Properly cite all sources to give credit to the original authors~~
* ~~Revise / Edit~~ 
  + ~~Proofread~~
  + ~~Seek feedback~~

*Derived from* [*Ten Simple Rules for Writing a Literature Review - PMC*](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3715443/)[*How to Write a Good Scientific Literature Review - Enago Academy*](https://www.enago.com/academy/how-to-write-a-good-scientific-literature-review/#:~:text=A%20scientific%20literature%20review%20usually,help%20you%20express%20your%20ideas)*.*

Criteria For Sources: Edited on: Aug 8, 2023, Aug 9, 2023, Sep 28, 2023

Relevance

* + The source directly compares robotic surgery and conventional laparoscopic surgery for endometriosis treatment.
  + The source addresses one or more of the following aspects: effectiveness, operating time, hospital stay, blood loss, post-operative complications, fertility outcomes, etc.
* Publications Type:
  + Peer-reviewed journal articles, systematic reviews, meta-analyses, clinical trials, and other high-quality studies are preferred.
  + High-quality conference papers and reports from reputable institutions are considered.
* Publication Date:
  + Prefer sources published within the last 20 years to include recent advancements and trends in surgical techniques and outcomes, but other older sources that are also considered to be excellent may be included.
* Sample Size and Methodology:
  + Studies with sufficient sample sizes (n > 25) are preferred.
  + Rigorous methodologies involving prospective designs, randomized controlled trials, or multicenter studies are prioritized.
* Author Expertise:
  + Sources authored by experts in endometriosis treatment and/or minimally invasive surgery are prioritized.
* Comparison Focus:
  + The source provides detailed and comprehensive comparative data on surgical outcomes, complications, patient-reported outcomes, or other relevant factors.
* Bias and Conflicts of Interest:
  + Transparent reporting of funding sources and potential conflicts of interest is expected.
  + Studies with minimized commercial bias or industry influence are favoured.
  + Prefer no conflicts of interest.
* Characteristicts of Sample:
  + Studies with patient populations with symptomatic endometriosis are preferred
  + Studies with patient populations over the age of 18 are preferred
* Quality of Reporting:
  + Well-documented sources with clear descriptions of study design, interventions, outcomes, and statistical analysis are prioritized.
* Language and Accessbility:
  + Sources written in English are preferred for easy comprehension.
  + Full-text accessibility for thorough analysis and citation is necessary.

List of Places To Research From: Aug 11, 2023

**Databases:**

* ~~PubMed -~~ [~~https://pubmed.ncbi.nlm.nih.gov/~~](https://pubmed.ncbi.nlm.nih.gov/)
* ~~Embase - https://www.embase.com/~~
* ~~Scopus - https://www.scopus.com/~~
* Web of Science - https://www.webofscience.com/
* Google Scholar - https://scholar.google.com/
* Cochrane Library - https://www.cochranelibrary.com/
* PsycINFO - https://www.apa.org/publishers/databases/psycinfo
* CINAHL (Cumulative Index to Nursing and Allied Health Literature) - https://www.ebscohost.com/nursing/products/cinahl-databases/cinahl-complete
* MEDLINE - <https://www.nlm.nih.gov/pubs/factsheets/medline.html> (pubmed is 92% of medline)
* ScienceDirect - https://www.sciencedirect.com/
* IEEE Xplore - https://ieeexplore.ieee.org/Xplore/home.jsp
* JSTOR - https://www.jstor.org/
* SpringerLink - https://www.springer.com/gp
* Wiley Online Library - <https://onlinelibrary.wiley.com/>

**Journals (Specialized in Endometriosis and Gynecology):**

* Journal of Endometriosis and Pelvic Pain Disorders - https://www.endometriosisjournal.com/
* Journal of Minimally Invasive Gynecology - https://www.jmig.org/
* Reproductive Sciences - https://journals.sagepub.com/home/rps
* Fertility and Sterility - https://www.fertstert.org/
* Human Reproduction - https://academic.oup.com/humrep
* Endometriosis - https://www.journals.elsevier.com/endometriosis
* Gynecological Surgery - https://gynecolsurg.springeropen.com/
* Journal of Obstetrics and Gynaecology Research - https://obgyn.onlinelibrary.wiley.com/
* International Journal of Gynecology & Obstetrics - https://www.ijgo.org/
* Acta Obstetricia et Gynecologica Scandinavica - https://obgyn.onlinelibrary.wiley.com/journal/16000447
* Archives of Gynecology and Obstetrics - <https://www.springer.com/journal/404>

**General Medicine and Health Sciences Journals:**

* New England Journal of Medicine - https://www.nejm.org/
* The Lancet - https://www.thelancet.com/
* JAMA (Journal of the American Medical Association) - https://jamanetwork.com/journals/jama
* British Medical Journal (BMJ) - https://www.bmj.com/
* Annals of Internal Medicine - https://www.acpjournals.org/journal/aim
* PLOS Medicine - https://journals.plos.org/plosmedicine/
* Health Affairs - https://www.healthaffairs.org/
* Journal of Health Economics - https://www.journals.elsevier.com/journal-of-health-economics
* Journal of Health Psychology - https://journals.sagepub.com/home/hpq
* American Journal of Public Health - https://www.ajph.org/
* Health Policy - https://www.journals.elsevier.com/health-policy

Studies

Edited on: Aug 9, 2023, Aug 11, 2023, Aug 12, 2023, Aug 14, 2023, Aug 15, 2023, Aug 16, 2023, Aug 18, 2023, Aug 19, 2023, Aug 26, 2023, Sep 12, 2023

Screening process:

* After a search was conducted, all results were exported to Endnote
* Duplicates were removed using Endnote’s duplicates remover
* Articles were then manually screened.

Purple = All grouped in one meta-analysis Orange = Prospective cohort studies NOT included in the meta-analysis. Rectosigmoid + colorectal.

* <https://pubmed.ncbi.nlm.nih.gov/32146573/>
  + <https://link.springer.com/article/10.1007/s11701-020-01061-y> (full-text article)
* <https://pubmed-ncbi-nlm-nih-gov.login.ezproxy.library.ualberta.ca/25489208/>
* <https://www.fertstert.org/action/showPdf?pii=S0015-0282%2810%2900652-7>
* <https://www.fertstert.org/article/S0015-0282(17)30042-0/fulltext>
* <https://onlinelibrary-wiley-com.login.ezproxy.library.ualberta.ca/doi/full/10.1002/rcs.2382>
* <https://oce-ovid-com.login.ezproxy.library.ualberta.ca/article/00000140-202109000-00022/HTML>
* <https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S2468784720302361>

SEARCH TERMS USED:

Endometriosis AND laparoscopic surgery AND robotic

Endometriosis AND laparoscopy surgery AND robotic

Endometriosis AND laparoscopic surgery AND robotic surgery

Endometriosis AND laparoscopic AND robotic

Pubmed # of results: 263

Embase # of results: 266

Scopus/Elsevier # of results: 1,584

CINAHL/Ebsco # of results: 82

Sep 2, 2023, Sep 3, 2023, Sep 5, 2023, Sep 6, 2023, Sep 7, 2023, Sep 8, 2023, Sep 10, 2023, Sep 11, 2023

* Reading the articles, notes & thoughts in OneNote (attached to end of logbook)
* Reminder: After reading the articles, choose 3-4 different aspects (hospitalization time, blood loss, operating time, etc.) that all studies touch base on that is important to look at - not much evidence for other outcomes.
* Found 1 more article

Sep 4, 2023, Sep 8, 2023,

* Learning basic statistics to help understand the meta-analysis.
* Crash course videos: <https://www.youtube.com/watch?v=sxQaBpKfDRk&list=PL8dPuuaLjXtNM_Y-bUAhblSAdWRnmBUcr&index=2&pp=iAQB>
* <https://www.youtube.com/watch?v=tN9Xl1AcSv8&list=PL8dPuuaLjXtNM_Y-bUAhblSAdWRnmBUcr&index=3&pp=iAQB>
* <https://www.youtube.com/watch?v=bf3egy7TQ2Q&list=PL8dPuuaLjXtNM_Y-bUAhblSAdWRnmBUcr&index=22&pp=iAQB>
* <https://www.youtube.com/watch?v=PPD8lER8ju4&list=PL8dPuuaLjXtNM_Y-bUAhblSAdWRnmBUcr&index=23&pp=iAQB>

Sep 13, 2023

* Looking at endometrial cancer (may have more studies and is also really cool!)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5724687/> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9292514/> <https://europepmc.org/article/MED/34631553> <https://link.springer.com/article/10.1007/s00432-016-2180-x> <https://pubmed.ncbi.nlm.nih.gov/27288987/><https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3295567/> <https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S0090825808010548><https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S1553465010001251><https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S0002937813019364><https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S0090825811009541><https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S0090825810000260><https://www-sciencedirect-com.login.ezproxy.library.ualberta.ca/science/article/pii/S1028455916300614> <https://ovidsp-dc2-ovid-com.login.ezproxy.library.ualberta.ca/ovid-new-b/ovidweb.cgi?&S=KKICFPPINAEBNPOMJPKJMHIHCFBOAA00&Complete+Reference=S.sh.60%7c22%7c1&Counter5=SS_view_found_complete%7c32410374%7cmedall%7cmedline%7cmed18&Counter5Data=32410374%7cmedall%7cmedline%7cmed18> <https://web-s-ebscohost-com.login.ezproxy.library.ualberta.ca/ehost/detail/detail?vid=0&sid=368036a3-0da1-451d-8ec9-e503cfa0f7fc%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#AN=153412020&db=rzh>

Sep 15, 2023, Sep 16, 2023, Sep 17, 2023, Sep 18, 2023, Sep 20, 2023, Sep 21, 2023, Sep 24, 2023

* Decided to stay on endometriosis. Continuing to take notes
* Chose my aspects: operating time, length of hospital stay, complication rate, and blood loss.
* My Research Question: What are the comparative outcomes of robot-assisted laparoscopic surgery versus conventional laparoscopic surgery for the treatment of endometriosis in terms of operating time, blood loss, complication rate, and length of hospital stay?

Sep 25, 2023

<https://libguides.library.ohio.edu/SR/review-types#:~:text=Depending%20on%20your%20question%20and,Table%201%3A%20Types%20of%20Reviews>.

My project most fits Systematic review. On the website it says: Systematic review - Seeks to systematically search for, appraise and synthesis research evidence, often adhering to guidelines on the conduct of a review. Aims for exhaustive, comprehensive searching. Quality assessment may determine inclusion/exclusion. Typically narrative with tabular accompaniment.

What is known; recommendations for practice. What remains unknown; uncertainty around findings, recommendations for future research.

* Systematic literature review vs scientific literature review?
* I originally set out to do a scientific literature review but systematic is probably better (more rigorous methodologies, study selection, etc.)
* PRISMA <https://www.prisma-statement.org/PRISMAStatement/Checklist>
* Trying to follow this checklist as close as I can, but this is my first review heh

Oct 1, 2023, Oct 2, 2023, Oct 3, 2024

* Working on quality analysis of articles using AMSTAR-2
* The checklist is rather long, I need to start writing my review son!

Oct 15, 2023

* Started writing the review 🙂
* I’m going to write the introduction first. Highlight importance of endometriosis and the impact it has.

Oct 20, 2023

* Finished writing the introduction

Oct 29, 2023, Oct 30, 2023, Nov 2, 2023

* Wrote the methods section
* PRISMA flow diagram using google drawings, referring to PRISMA checklist
* Google Drawings

Nov 2, 2023, Nov 6, 2023

* Writing the results section
* Forest plot or bar graphs?
* Forest plot - confidence interval, heterogeneity, more stats
* Bar graph - easier to read, basically no stats, doesn’t seem to be to common in other studies though
* Remember a meta-analysis is not technically an individual study.
* Bar graphs are probably quite good
* How to include meta-analysis result in graphs? No overall mean, only WMD. Some missing data?
* Can’t make graphs, sticking to narrative.

Nov 7, 2023 to Nov 30, 2023

* Made table for characteristics of studies
* Rewrote Introduction
* Continuing to write Results section

Dec 10, 2023

* Figuring out how to interpret forest plot so I can finish writing results section today.

Dec 11, 2023 - Dec 24, 2023

* Done my Results section - yay!
* Start the Discussion section

Dec 27, 2023 - Jan 8, 2024

* Finished my review.
* Editing!!

Jan 9, 2024 - Jan 21, 2024

* Planning what I want to put on my trifold in a separate document
* Planning the design of trifold on Canva
* Speech writing

Jan 22, 2024 - Jan 25, 2024

* Writing my speech 🙂

Jan 26, 2024

* Making bibliography

Jan 27, 2024 - Jan 28, 2024

* Trifold
* Pink background papers
* Gold theme for endometriosis awareness
* Gold ribbons

Jan 29, 2024

* Presented to Fourie
* Main feedback was to speak slower, eye contact

Feb 11, 2024

* Got into CYSF!!!!!!!!!!!!!!!!!!!!
* Feedback from judges:
* The research you collected was thorough and very well understood. Your explanation of how you narrowed down the studies used was great. You explained your 4 measurements /responding variables of effectiveness well, and broke them down well. You clearly knew your information well, and could answer any questions we had with solid data to back you up. You did well identifying sources of error and your extension. Slow down your presentation - allow your judges time to process and see the facts/data you are giving. Consider the weighting of the meta-analysis vs the 3 smaller studies. Should the meta-analysis have a greater weighting than the smaller studies. For example, the operating time - one of the smaller studies had a standard deviation that was almost 1/2 the value of the total time. The standard deviation in the meta-analysis was very small.
* List of things I need to do to improve my project:

1. Improve my discussion (add more to implications, future directions, why OT is longer for RAS, cost)
2. Contact experts (get in touch with some of the gynes from last year, find some surgical gynecologists)
3. Go to Hotzel and ask him to read my review, edit
4. Add more info to the introduction.
5. AMSTAR

Feb 15, 2024

* Emails to experts

Dear Dr. \_\_\_\_\_\_\_\_

I am a grade 8 student at Louis Riel and I have been selected as a candidate to move on to the Calgary Youth Science Fair (CYSF). I have some questions that I would like to ask you or a facility member for my project - I wrote a systematic literature review comparing laparoscopic surgery vs robotic surgery for the treatment of endometriosis (with operating time, blood loss, length of hospital stay, and rate of complication being the outcomes I am assessing). I was wondering if you could answer some questions I have, or if you could refer me to someone who could (many of these questions are related to surgical gynecology).

1. As a gynecologist, after you diagnose a patient with endometriosis, what do you often recommend as a treatment? When do you typically start considering surgical intervention?
2. In the event that surgery is used (for endo), what are some factors that influence the type of surgery chosen (standard laparoscopy, robotic surgery, laparotomy)?
3. In your practice, have you observed any qualitative differences (such as in postoperative recovery, effectiveness, pain management, or patient satisfaction) between laparoscopic and robotic surgery for endometriosis?
4. What areas of gynecological surgery would you like to see further researched?
5. Do you think that training in medical school/residency in newer techniques like robotic surgery is important? Or should training largely stick to standard laparoscopic techniques for those who do not want to specialize in the robot-assisted technique?
6. Overall, which technique (laparoscopic surgery, robotic surgery) do you prefer to use for the treatment of endometriosis?

Feb 19, 2024

* Got responses
* Dr Jadine Paw says theres no gyne surgeons in Calgary who use robotic system
* Will try to contact them: Dr. André LaRoche and Dr. Grace Yeung

Feb 26, 2024

* Got an email from Dr. Liane Belland
* She says she was referred to me by Dr. Pamela Chu, who I emailed, yay!
* Sent her my questions

Feb 27, 2024, Feb 28, 2024, Feb 29, 2024, Mar 1, 2024, Mar 2, 2024, Mar 3, 2024, Mar 4, 2024

* Uploading to the CYSF site
* Problem
* Method
* Research (bg research mostly, making them into sentences instead of bullets)
* Research (The results of the search of the databases, the characteristics of studies, synthesis of the actual results, hopefully it’s clear!)
* Discussion of results in research section? Discussion of research.
* Data section → not too much data in my project, may upload the forest plots to show where I got the data from I suppose!
* LinkedIn of Dr. Andre LaRoche and Grace Yeung, sent friend requests, but LinkedIn won't send messages unless using Premium, so I might just have to call them/email their clinics.
* Getting Ms. Davis to read through → she’s very busy but hopefully she can take a peek and point out anything glaring

Mar 5, 2024, Mar 6, 2024

* Before at the school fair I said I’d wanted to do a formal quality assessment of my studies
* Why not do it!
* <https://mmrjournal.biomedcentral.com/articles/10.1186/s40779-020-00238-8#MOESM2>
* Using the cohort and the meta-analysis ones. Downloaded as Word file
* <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>
* Guide on how what each question means and how to analyze the article and answer the questions
* Raimondo = Good
* Ferrier = Fair
* Le Gac = Fair
* Restaino = Good
* Really shows how we need more higher quality studies!!!!!

Mar 7, 2024, Mar 8, 2024

* Making slideshow
* Used a women’s health template from slidesgo: <https://slidesgo.com/theme/female-fertility-meeting#search-women%26%23039%3Bs+health&position-6&results-131&rs=search&rs=search> (I definitely did not want to spend 100 hours on slide design and choosing colour palettes)

Mar 9, 2024

* Made my presentation video!
* It’s 10:18 minutes long
* Zoom will show and record the slideshow and my face, so I’m using Zoom
* Uploaded to CYSF site

Mar 10, 2024

* Citations (I will need to add more)
* Acknowledgements

Mar 11, 2024

* Banner image and my participant image
* Making sure everything looks great.

Mar 12, 2024

* Added project image
* Logbook and review file uploaded

**Citations**

1. A Guide To Understanding Endometriosis. Health. Accessed January 26, 2024. https://www.health.com/endometriosis-7152446
2. asterdmhealthcare. What Is Robotic Endometriosis Surgery And What Are Its Advantages? www.asterdmhealthcare.com. https://www.asterdmhealthcare.com/health-library/what-is-robotic-endometriosis-surgery-and-what-are-its-advantages#:~:text=Robotic%20Endometriosis%20Surgery%20Benefits&text=Robotic%20endometriosis%20surgery%20scar%20is
3. Bafort C, Beebeejaun Y, Tomassetti C, Bosteels J, Duffy JM. Laparoscopic surgery for endometriosis. Cochrane Database of Systematic Reviews. 2020;10(10). doi:https://doi.org/10.1002/14651858.cd011031.pub3
4. Biz Care | Blog | Biz Care. www.biz-care.com. https://www.biz-care.com/blogs/nz/endometriosis-awareness-month-living-with-endometriosis
5. Endometriosis - Symptoms and causes. Mayo Clinic. Published 2018. https://www.mayoclinic.org/diseases-conditions/endometriosis/symptoms-causes/syc-20354656#:~:text=Other%20symptoms%20include%20cramps%20that
6. Endometriosis Surgery - Brigham and Women’s Hospital. Brighamandwomens.org. Published 2024. https://www.brighamandwomens.org/obgyn/infertility-reproductive-surgery/endometriosis/surgical-treatment-of-endometriosis-excision-and-destruction#:~:text=Excision%20of%20superficial%20peritoneal%20endometriosis
7. Female Fertility Meeting | Google Slides & PPT. slidesgo.com. Accessed March 11, 2024. https://slidesgo.com/theme/female-fertility-meeting#search-women%26%23039%3Bs+health&position-6&results-131&rs=search&rs=search
8. Ferrier C, Le Gac M, Kolanska K, et al. Comparison of robot‐assisted and conventional laparoscopy for colorectal surgery for endometriosis: A prospective cohort study. The International Journal of Medical Robotics and Computer Assisted Surgery. 2022;18(3). doi:https://doi.org/10.1002/rcs.2382
9. How P-Values Help Us Test Hypotheses: Crash Course Statistics #21. www.youtube.com. Accessed January 26, 2024. https://www.youtube.com/watch?v=bf3egy7TQ2Q&list=PL8dPuuaLjXtNM\_Y-bUAhblSAdWRnmBUcr&index=22&pp=iAQB
10. John Hopkins Medicine. Endometriosis. John Hopkins Medicine. Published 2019. https://www.hopkinsmedicine.org/health/conditions-and-diseases/endometriosis
11. Laparoscopic Surgery for Endometriosis | HealthLink BC. www.healthlinkbc.ca. https://www.healthlinkbc.ca/health-topics/laparoscopic-surgery-endometriosis#:~:text=Laparoscopy%20is%20used%20to%20examine
12. Le Gac M, Ferrier C, Touboul C, et al. Comparison of robotic versus conventional laparoscopy for the treatment of colorectal endometriosis: Pilot study of an expert center. Journal of Gynecology Obstetrics and Human Reproduction. 2020;49(10):101885. doi:https://doi.org/10.1016/j.jogoh.2020.101885
13. Ma LL, Wang YY, Yang ZH, Huang D, Weng H, Zeng XT. Methodological Quality (risk of bias) Assessment Tools for Primary and Secondary Medical studies: What Are They and Which Is better? Military Medical Research. 2020;7(7). doi:https://doi.org/10.1186/s40779-020-00238-8
14. Mathematical Thinking: Crash Course Statistics #2. www.youtube.com. Accessed January 26, 2024. https://www.youtube.com/watch?v=tN9Xl1AcSv8&list=PL8dPuuaLjXtNM\_Y-bUAhblSAdWRnmBUcr&index=3&pp=iAQB
15. Mayo Clinic. Robotic surgery - Mayo Clinic. Mayoclinic.org. Published May 6, 2022. https://www.mayoclinic.org/tests-procedures/robotic-surgery/about/pac-20394974
16. National Institute of Health. Study Quality Assessment Tools | National Heart, Lung, and Blood Institute (NHLBI). Nih.gov. Published 2009. https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools
17. NHS Choices. Overview - Laparoscopy (keyhole surgery). NHS. Published 2019. https://www.nhs.uk/conditions/laparoscopy/
18. P-Value Problems: Crash Course Statistics #22. www.youtube.com. Accessed January 26, 2024. https://www.youtube.com/watch?v=PPD8lER8ju4&list=PL8dPuuaLjXtNM\_Y-bUAhblSAdWRnmBUcr&index=23&pp=iAQB
19. Pautasso M. Ten simple rules for writing a literature review. Bourne PE, ed. PLoS Computational Biology. 2013;9(7). doi:https://doi.org/10.1371/journal.pcbi.1003149
20. PRISMA. www.prisma-statement.org. https://www.prisma-statement.org/PRISMAStatement/Checklist
21. Raimondo D, Alboni C, Orsini B, et al. Comparison of perioperative outcomes between standard laparoscopic and robot-assisted approach in patients with rectosigmoid endometriosis. Acta Obstetricia Et Gynecologica Scandinavica. 2021;100(9):1740-1746. doi:https://doi.org/10.1111/aogs.14170
22. Restaino S, Mereu L, Finelli A, et al. Robotic surgery vs laparoscopic surgery in patients with diagnosis of endometriosis: a systematic review and meta-analysis. Journal of Robotic Surgery. 2020;14(5):687-694. doi:https://doi.org/10.1007/s11701-020-01061-y
23. Rindos NB, Fulcher IR, Donnellan NM. Pain and Quality of Life after Laparoscopic Excision of Endometriosis. Journal of Minimally Invasive Gynecology. 2020;27(7):1610-1617.e1. doi:https://doi.org/10.1016/j.jmig.2020.03.013
24. Saeed Pahlevan Sharif, Mura P, Sarah N.R. Wijesinghe. Systematic Reviews in Asia: Introducing the “PRISMA” Protocol to Tourism and Hospitality Scholars. Published online January 1, 2019:13-33. doi:https://doi.org/10.1007/978-981-13-2463-5\_2
25. Scientific Literature Review. https://www.dcu.ie/sites/default/files/students\_learning/scientific\_lit\_review\_workshop\_ug.pdf
26. The Himmelfarb Health Sciences Library. Meta-Analysis - Study Design 101. Gwu.edu. Published 2019. https://himmelfarb.gwu.edu/tutorials/studydesign101/metaanalyses.cfm
27. UCLA health. What is Robotic Surgery? - Robotic Surgery | UCLA Health. www.uclahealth.org. https://www.uclahealth.org/medical-services/robotic-surgery/what-robotic-surgery
28. Western Sydney University. Literature Review Purpose.; 2017. https://www.westernsydney.edu.au/\_\_data/assets/pdf\_file/0006/1254786/Literature\_review\_purpose.pdf
29. What Is Statistics: Crash Course Statistics #1. www.youtube.com. Accessed January 26, 2024. https://www.youtube.com/watch?v=sxQaBpKfDRk&list=PL8dPuuaLjXtNM\_Y-bUAhblSAdWRnmBUcr&index=2&pp=iAQB
30. World Health Organization. Endometriosis. World Health Organization. Published March 24, 2023. https://www.who.int/news-room/fact-sheets/detail/endometriosis
31. Yellow awareness ribbon and uterus icon vector isolated on a white... iStock. Published March 29, 2023. Accessed March 12, 2024. https://www.istockphoto.com/vector/march-is-endometriosis-awareness-month-vector-illustration-gm1477868090-506291961