National Institute for Health and Care Excellence

Draft for consultation

Fertility problems: assessment and treatment

[H] Surgery for hydrosalpinges before IVF

NICE guideline NGXXX

Evidence reviews underpinning recommendations 1.6.3 and 1.6.4 in the NICE guideline

September 2025

Draft for consultation

This evidence review was developed by NICE

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Surgery for hydrosalpinges before IVF

Review question

What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

Introduction

Infertility related to problems with fallopian tubes (also known as salpinges) can be caused by many factors such as pelvic inflammatory disease, endometriosis and previous abdominal surgery. In cases of severe tubal damage with distal occlusion, the tube becomes distended with fluid – this is referred to as hydrosalpinx. The presence of hydrosalpinx is particularly associated with a reduced chance of success with in vitro fertilisation (IVF), because of a reduced chance of implantation of the embryo. The mechanism whereby the likelihood of implantation is reduced is not established but may involve a direct mechanical effect of hydrosalpinx fluid leaking into the uterine cavity.

A number of methods have been studied for treating hydrosalpinges in people with tubal disease contemplating IVF. These include surgical removal of the fallopian tube (salpingectomy), or interruption of the medial end of the tube thereby preventing access of fluid to the uterine cavity (proximal tubal occlusion), and aspiration of hydrosalpingeal fluid prior to embryo transfer. However, the most effective intervention for treating hydrosalpinx in people with tubal disease contemplating IVF is not clear.

The aim of this review is to determine the effectiveness of surgery for hydrosalpinges prior to ART in people with tubal disease.

Summary of the protocol

See Table 1 for a summary of the Population, Intervention, Comparison and Outcome (PICO) characteristics of this review.

Table 1: Summary of the protocol (PICO table)

Population	Inclusion: • People with a known diagnosis of tubal disease (confirmed by diagnostic surgery, hysterosalpingogram (HSG), hysterosalpingo-contrast sonography, or ultrasound)
Intervention	Tubal surgery (unilateral or bilateral) prior to in vitro fertilisation (IVF): • Salpingectomy • Tubal occlusion • Aspiration of hydrosalpinx fluid • Salpingostomy
Comparison	• Head-to-head comparisons of different tubal surgical interventions prior to IVF • No intervention or tubal treatment prior to IVF • Non-surgical intervention prior to IVF

Outcome	Critical • Live birth per participant randomised (defined as the delivery of a live fetus after 22 completed weeks of gestational age) • Surgical complication rate per participant randomised (including intraoperative bleeding, vasomotor instability, infection, need for repeat surgery, or overall complications as defined by the study) **Important** • Clinical pregnancy rate per participant randomised (defined as the presence of one or more gestational sacs on ultrasound) • Multiple pregnancy rate per participant randomised (defined as number of twin, triplet or higher-order pregnancies confirmed by ultrasound or delivery) • Miscarriage rate per participant randomised (defined as the spontaneous loss of an intrauterine pregnancy prior to 22 completed weeks of gestational age) • Ectopic pregnancy rate per participant randomised (defined as pregnancy outside the uterine cavity as diagnosed by ultrasound, surgical identification or histopathology)

For further details see the review protocol in appendix A.

Methods and process

During the development of this guideline, a recently updated published Cochrane review was identified which matched the committee's intended PICO (Melo 2020). Cochrane's methods are closely aligned to standard NICE methods, minor deviations (defining primary and secondary outcomes as opposed to critical and important) relevant to the topic area were highlighted and taken into account by the committee in discussions of the evidence. Methods specific to this review question are described in the review protocol in appendix A and the methods document (supplementary document 1).

Declarations of interest were recorded according to NICE's conflicts of interest policy.

Effectiveness evidence

Included studies

One Cochrane review (Melo 2020) was included in this report, comparing the effectiveness and safety of unilateral and/or bilateral tubal surgical intervention (salpingectomy, tubal occlusion, ultrasound guided/surgical aspiration of hydrosalpinx fluid or salpingostomy) for tubal disease versus any other tubal surgery, non-surgical intervention prior to IVF or no intervention.

The review includes 11 parallel design randomised controlled trials (RCTs; An 2015, Dechaud 1998, Dreyer 2016, Fouda 2011, Fouda 2015, Hammadieh 2008, Kontoravdis 2006, Labib 2016, Moshin 2006, Strandell 1999, Vignarajan 2019) and all these studies were considered in this report. Nine studies were published in full and 2 were conference abstracts (Labib 2016, Moshin 2006). This review was used by the committee to make recommendations as it was considered sufficiently relevant, high quality and recent.

The Cochrane review is summarised in Table 2 and the results of the review are summarised in evidence statements in this report, however full details of the Cochrane review including methods are available here: https://doi.org/10.1002/14651858.CD002125.pub4.

See the Cochrane review for the literature search strategy and study selection flow chart https://doi.org/10.1002/14651858.CD002125.pub4.

Excluded studies

See the Cochrane review for the list of excluded studies with reasons for their exclusions: https://doi.org/10.1002/14651858.CD002125.pub4.

Summary of included studies

Summaries of the studies that were included in this review are presented in Table 2.

Table 2: Summary of included studies

Study	Population	Comparisons	Outcomes	Comments
Melo 2020 Systematic review	Number of studies = 11 Number of women with tubal disease analysed = 1386 (502 underwent salpingectomy; 294 underwent tubal occlusion; 256 had transvaginal aspiration of hydrosalpingeal fluid; and 334 had no tubal surgery) The upper age limit <=41 years	Salpingectomy vs no tubal surgery 2 RCTs, N=264 (Dechaud 1998, Strandell 1999) Transvaginal aspiration of hydrosalpingeal fluid vs no aspiration 2 RCTs, N=176 (Fouda 2011, Hammadieh 2008) Tubal occlusion vs salpingectomy vs no tubal surgery for hydrosalpinges (3 randomisation groups) 2 RCTs, N=209 (Kontoravdis 2006, Moshin 2006#) Tubal occlusion vs salpingectomy 3 RCTs, N=332 (Dreyer 2016, Labib 2016#, Vignarajan 2019) In Dreyer 2016 study tubal occlusion was done using Essure® device Transvaginal aspiration of hydrosalpingeal fluid vs salpingectomy 1 RCT, N=160 (Fouda 2015) Transvaginal aspiration of hydrosalpinges vs no tubal surgery 1 RCT, N=135 (An 2015) No studies were	Primary outcomes • Live birth per woman randomised, defined as the delivery of a live fetus after 22 weeks of gestational age • Surgical complication rate per woman randomised (intraoperative bleeding or vasomotorinstability, infection, need for repeat surgery or overall complications as reported by trialists Secondary outcomes • Clinical pregnancy rate per woman randomised, defined as the presence of one or more gestational sacs on ultrasound* • Multiple pregnancy rate per woman randomised, defined as the number of twin, triplet or higher-order pregnancies confirmed by ultrasound or delivery • Miscarriage rate per woman randomised, defined as the	IVF cycles 9 RCTs reported results over 1 IVF cycle except for 2 RCTs (Dechaud 1998 and Strandell 1999) Time interval between surgery and IVF 4 RCTs reported 2-3 months (Dreyer 2016, Kontoravdis 2006, Moshin 2006, Strandell 1999), 1 RCT no later than 12 weeks (Vignarajan 2019), 1 RCT 1-17 months (Dechaud 1998) Definition of tubal disease All included RCTs defined tubal disease as the presence of hydrosalpinx in imaging studies or at the time of laparoscopy, except Dechaud 1998 where tubal diverticula were, in isolation or concurrently to hydrosalpinx, sufficient to make a diagnosis of tubal disease Hydrosalpinx size Not reported in any of the studies

Study	Population	Comparisons	Outcomes	Comments
		identified: • that compared tubal occlusion with aspiration of hydrosalpingeal fluid, • where 1 of the intervention arms underwent salpingostomy	spontaneous loss of an intrauterine pregnancy prior to 22 completed weeks of gestational age • Ectopic pregnancy rate per woman randomised, defined as pregnancy outside the uterine cavity as diagnosed by ultrasound, surgical identification or histopathology Non-relevant secondary outcomes included in the Cochrane review • Mean number of oocytes retrieved per woman randomised • Mean number of embryos obtained per woman randomised	Presence/absence of ultrasound-visible fluid in the endometrial cavity Not reported in any of the studies

[#] *Moshin 2006 and Labib 2016 are conference abstracts; * Ongoing and viable pregnancy rates were combined with clinical pregnancy rate, as ongoing pregnancy is currently not a recognised outcome by The International Glossary on Infertility and Fertility Care 2017 (Melo 2020)*
ART: assisted reproductive technology; IVF: in vitro fertilisation; N: number (the totals for each comparison were calculated by the Technical Team based on the corresponding forest plots in the Cochrane review); RCT: randomised controlled trial

See the Cochrane review (Melo 2020) for characteristics of studies tables and forest plots: https://doi.org/10.1002/14651858.CD002125.pub4.

Summary of the evidence

The results of the Cochrane review are summarised below and interpreted according to the minimal important differences (MIDs) used for this guideline (see Methods supplement).

Comparison 1: Tubal surgery (all methods) vs no tubal surgery

Critical outcomes

There was no relevant evidence for the outcome of live birth.

There was no evidence of clinically important difference between salpingectomy (all methods) and no tubal surgery on surgical complication rate such as conversion to laparotomy (Peto OR=5.80 (95% CI 0.11 to 303.69), 1 RCT, very low quality evidence) and pelvic infection (Peto OR=5.80 (95% CI 0.11 to 303.69), 1 RCT, low quality evidence).

Important outcomes

Moderate quality evidence from 4 RCTs showed a higher clinical pregnancy rate in people receiving salpingectomy (all methods) relative to no tubal surgery (RR=2.02 (95%CI 1.44 to 2.82)).

Low quality evidence from 2 RCTs showed a higher clinical pregnancy rate in people receiving tubal occlusion (all methods) relative to no tubal surgery (RR=3.21 (95% CI 1.72 to 5.99)). Similarly, very low quality evidence from 3 RCTs showed a higher clinical pregnancy rate in people receiving transvaginal aspiration of hydrosalpingeal fluid relative to no tubal surgery (RR=1.67 (95% CI 1.10 to 2.55)).

There was no evidence of clinically important difference between transvaginal aspiration of hydrosalpingeal fluid and no tubal surgery on multiple pregnancy rate (Peto OR=2.15 (95% CI 0.59 to 7.85), 1 RCT, very low quality evidence).

There was no clinically important difference between salpingectomy (all methods) and no tubal surgery on miscarriage rate (Peto OR=0.91 (95% CI 0.33 to 2.52, 3 RCTs, low quality evidence).

There was no evidence of clinically important difference between tubal occlusion (all methods) (Peto OR=0.55 (95% CI 0.04 to 8.43), 1 RCT, very low quality evidence), transvaginal aspiration of hydrosalpingeal fluid (Peto OR=1.27 (95% CI 0.44 to 3.66), 3 RCTs, very low quality evidence) and no tubal surgery on miscarriage rate.

There was also no evidence of clinically important difference between salpingectomy (all methods) (Peto OR=0.29 (95% CI 0.04 to 2.11), 3 RCTs, low quality evidence), tubal occlusion (all methods) (Peto OR=3.67 (95% CI 0.04 to 384.48), 1 RCT, very low quality evidence), transvaginal aspiration of hydrosalpingeal fluid (Peto OR=0.59 (95% CI 00.8 to 4.61), 3 RCTs, very low quality evidence) and no tubal surgery on ectopic pregnancy rate.

It is reported that a subgroup analysis for women younger and older than 40 years old was not possible because of a lack of data.

Comparison 2: Laparoscopic proximal tubal occlusion (all methods) vs salpingectomy

Critical outcomes

Very low quality evidence from 1 RCT showed no clinically important difference between laparoscopic proximal tubal occlusion and salpingectomy on live birth rate (RR=1.21, (95% CI 0.76 to 1.95)).

There was no relevant evidence for the outcome of surgical complication rate such as wound infection or pelvic infection.

Important outcomes

Very low quality evidence from 3 RCTs showed no clinically important difference between laparoscopic proximal tubal occlusion and salpingectomy on clinical pregnancy rate (RR=0.81 (95% CI 0.62 to 1.07)).

There was no relevant evidence for the outcome of multiple pregnancy rate.

There was no evidence of a clinically important difference between laparoscopic proximal tubal occlusion and salpingectomy on ectopic pregnancy rate (Peto OR=7.39, (95% CI 0.15 to 372.38), 1 RCT, very low quality evidence) or on miscarriage rate (Peto OR=0.74 (95% CI 0.16 to 3.34), 2 RCTs, low quality evidence).

It is reported that a subgroup analysis for women younger and older than 40 years old was not possible because of a lack of data.

Comparison 3: Transvaginal aspiration of hydrosalpingeal fluid vs laparoscopic salpingectomy

Critical outcomes

There was no relevant evidence for the outcome of live birth.

It is reported that here were no cases of surgical complications and therefore the effect could not be estimated.

Important outcomes

There was no evidence of clinically important difference between transvaginal aspiration of hydrosalpingeal fluid and laparoscopic salpingectomy on clinical pregnancy rate (RR=0.69 (95% CI 0.44 to 1.07), 1 RCT, very low quality evidence).

There was no relevant evidence for the outcome of multiple pregnancy rate.

There was no clinically important difference between transvaginal aspiration of hydrosalpingeal fluid and laparoscopic salpingectomy on miscarriage rate (Peto OR=1.00 (95% CI 0.20 to 5.08), 1 RCT, very low quality evidence).

There was no evidence of clinically important difference between transvaginal aspiration of hydrosalpingeal fluid and laparoscopic salpingectomy on ectopic pregnancy rate (Peto OR=7.39 (95% CI 0.15 to 372.28), 1 RCT, very low quality evidence).

Comparison 4: Tubal occlusion (all methods) vs aspiration of hydrosalpingeal fluid

It is reported that no relevant evidence was identified for this comparison.

Comparison 5: **Laparoscopic salpingectomy vs any other method of salpingectomy**

It is reported that no relevant evidence was identified for this comparison.

Comparison 6: **Laparoscopic tubal occlusion vs hysteroscopic tubal occlusion**

It is reported that no relevant evidence was identified for this comparison.

See the Cochrane review for summary of findings tables and full results: https://doi.org/10.1002/14651858.CD002125.pub4.

Economic evidence

A total of 2,632 studies were identified in the health economic literature review for this review question. After duplicates were removed, 1,911 studies were screened on title and abstract. Of these studies, 2 were ordered for full text review, of which both were excluded at this stage.

Included studies

A systematic review of the economic literature was conducted but no economic studies were identified which were applicable to this review question.

Also see the literature search strategy in appendix B and the economic study selection flow chart in appendix F.

Excluded studies

Economic studies not included in this review are listed, and reasons for their exclusion are provided in appendix J.

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation.

Unit costs

Resource	Unit costs	Source
Salpingectomy (elective inpatients)	£5,853	National Schedule of NHS Costs 2021-22, Major, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 0-1, Currency Code MA08B, Elective inpatients
Salpingectomy (day case)	£3,628	National Schedule of NHS Costs 2021-22, Major, Laparoscopic or Endoscopic, Upper Genital Tract Procedures, with CC Score 0-1, Currency Code MA08B, Day case

The committee's discussion and interpretation of the evidence

The outcomes that matter most

The Cochrane review's primary outcomes included live birth, which the committee agreed was a critical outcome because it is the most important outcome for people with fertility problems. The review also included surgical complications as a primary outcome. The committee agreed that surgical complications were critical to capture because it is important when discussing and deciding on treatment options that risks are considered and weighed up against potential benefits.

The Cochrane review included clinical pregnancy as a secondary outcome. The committee agreed clinical pregnancy should be an important outcome as this reflects the evidence available. They were aware that pregnancy rates do not allow for differentiation between full-term pregnancy and pregnancy loss, and agreed that live birth was the most important outcome and clinical pregnancy only acted as a proxy for live birth in the absence of available evidence.

Multiple pregnancy was included in the Cochrane review as a secondary outcome and the committee agreed that it was important to capture this outcome as it creates a greater risk for complications in pregnancy and during delivery, such as early birth.

The Cochrane review included miscarriage as a secondary outcome, and the committee agreed this outcome was important to capture because miscarriages can be devastating for people trying to have a baby.

Ectopic pregnancy was also included in the Cochrane review as a secondary outcome and the committee agreed that it was important to assess this outcome as the risk of ectopic pregnancy may be higher with interventions that leave the fallopian tube in situ compared with removal of the tube.

All other outcomes listed in the Cochrane protocol (mean number of oocytes retrieved per woman randomised and mean number of embryos obtained per woman randomised) were not prioritised by the committee because it was considered they do not provide patients or clinicians with meaningful additional information to inform treatment decisions about management of hydrosalpinges.

The quality of the evidence

The quality of the evidence was assessed using GRADE methodology and ranged from very low to moderate quality. However, apart from 1 moderate-quality result, the quality of the evidence was very low or low.

All outcomes were downgraded for serious imprecision either due to a small sample size from a single study, wide confidence intervals or a low number of events.

Where outcomes were downgraded due to risk of bias, this was mainly due to unclear blinding (of participants, personnel, and outcome assessors) and attrition bias (incomplete outcome data). For some of the outcomes there was also insufficient detail reported about random sequence generation and allocation concealment. In terms of other potential sources of bias, some studies were assessed to be at unclear risk of bias mostly because of a lack of information on baseline characteristics and 1 RCT was considered at high risk of other bias because of recruitment ending prematurely.

The Cochrane review included 2 conference abstracts (Labib 2016, Moshin 2006); however additional information was obtained from the authors by the Cochrane review authors.

Benefits and harms

The committee discussed the relevance of the Cochrane review as the subject of this review is specific to surgery for hydrosalpinges and the Cochrane review is broader covering all methods of tubal surgery. However, they agreed that the Cochrane review was in line with this review's PICO as it evaluated tubal surgery before IVF and usually it is surgery for hydrosalpinges that is performed before IVF.

The committee noted the lack of evidence for the outcome of live birth, but considered the Cochrane review evidence that showed some benefits of surgery for hydrosalpinges before ART on clinical pregnancy rates.

The committee discussed moderate quality evidence for a benefit of salpingectomy before IVF on clinical pregnancy, and low quality evidence showing a benefit for tubal occlusion. The committee also noted that very low quality evidence showed no clinically important difference between salpingectomy and laparoscopic proximal tubal occlusion on live birth rate (RR 1.21 – 95% CI 0.76 – 1.95). The committee agreed that both procedures should be considered as treatment options for people with hydrosalpinges undergoing assisted conception. While there is evidence of effectiveness for both procedures, the committee acknowledged that the evidence base for tubal occlusion is somewhat weaker. However, both interventions are used in practice and tubal occlusion could be preferred as a less invasive procedure of the two. The committee noted that although salpingectomy may be more invasive than tubal occlusion, salpingectomy may be the preferred option for example in people with hydrosalpinx and chronic pelvic pain. Based on their knowledge of a wider evidence base showing that ovarian cancer often starts in the fallopian tubes, the committee also highlighted potential benefits of salpingectomy in terms of long-term risk reduction and emphasised that this might be another reason for preferring salpingectomy over tubal occlusion.

The committee noted that very low quality evidence showed a higher clinical pregnancy rate in people undergoing transvaginal aspiration of hydrosalpingeal fluid relative to no tubal surgery. Based on their clinical knowledge and experience, the committee noted that aspiration of hydrosalpinx fluid is often followed by re-accumulation over a relatively short period of time and aspiration alone does not provide a permanent solution to the problem of hydrosalpinx fluid gaining access to the endometrium. The committee recognised that some people with hydrosalpinges may be at a high risk of complications with laparoscopic surgery, for instance, in the context of previous abdominal surgery and dense adhesions. The committee agreed that aspiration of hydrosalpinx fluid should be considered for these patients. However, the committee noted that of the studies in the Cochrane review that showed a benefit for transvaginal aspiration of hydrosalpingeal fluid, the majority (and all the studies that reported timing) performed the intervention immediately following oocyte retrieval, and the committee agreed that it was important to include this in the recommendation to reduce the risk of re-accumulation.

The committee discussed that in the study by Dreyer 2016 hysteroscopic tubal occlusion was performed using the Essure® device, however they agreed to disregard the evidence about this device because it has been discontinued due to safety concerns and is no longer available.

Cost effectiveness and resource use

In the absence of any included evidence or original economic analysis, the committee made a qualitative assessment of the cost-effectiveness of their recommendations.

The committee believed that it would be cost-effective to offer salpingectomy or tubal occlusion before IVF in those women with hydrosalpinx as they believed that the evidence of improved clinical pregnancy rate when compared to no tubal intervention would translate into higher live births and therefore reduce the need for further IVF cycles.

The committee acknowledged that the clinical evidence showed no clinically important difference for live birth rates, however noted this was very low quality evidence. The committee discussed the positive correlation between clinical pregnancy rates and live birth rates which they observe in clinical practice and highlighted the evidence of a positive correlation which can be found in the clinical literature for studies assessing the impact of fertility interventions – where both clinical pregnancy and live birth rates are reported outcomes. As seen, for example in Rao 2018. The committee also noted that this cohort of people are likely to experience greater difficulty achieving a clinical pregnancy as opposed to experiencing problems carrying to term due to the nature of the condition. The committee also discussed that the benefits of salpingectomy were not restricted to live births as surgery can also lead to improvements in chronic pelvic pain. Therefore, the committee concluded that their recommendation would be cost-effective producing additional live births at an acceptable cost to the NHS.

In addition, the committee reasoned that aspiration could be cost-effective for the NHS in women at high risk of complications from laparoscopic surgery. While noting the very low quality of evidence for aspiration for the treatment of hydrosalpinges, they believed that a consider recommendation was appropriate because of the different trade-off between benefits and risks in a sub-group with higher risks of adverse surgical outcomes. Despite its lower cost the committee did not believe that aspiration would be cost-effective relative to salpingectomy as, in their experience, aspiration does not provide a permanent solution because of re-accumulation of fluid over time.

The committee stated that their recommendations were largely aligned with existing NICE guidance and also reflected current practice. They therefore did not anticipate a significant resource impact to the NHS.

Recommendations supported by this evidence review

This evidence review supports recommendations 1.6.3 and 1.6.4.

References – included studies

Effectiveness

Melo 2020

Melo E, Georgiou EX, Johnson N, van Voorst SF, Strandell A, Mol BWJ et al. Surgical treatment for tubal disease in women due to undergo in vitro fertilisation. Cochrane Database of Systematic Reviews 2020, 10(10):CD002125. doi: 10.1002/14651858.CD002125.pub4. Accessed 14 December 2023

Other

Rao 2018

Rao, M., Zeng, Z. & Tang, L. Maternal physical activity before IVF/ICSI cycles improves clinical pregnancy rate and live birth rate: a systematic review and meta-analysis. *Reprod Biol Endocrinol* **16**, 11 (2018). https://doi.org/10.1186/s12958-018-0328-z

Appendices

Appendix A Review protocols

Review protocol for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

Table 3: Review protocol

ID	Field	Content
0.	PROSPERO registration number	N/A
1.	Review title	Clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART) for people with tubal disease
2.	Review question	What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?
3.	Objective	To determine the clinical and cost effectiveness of tubal surgery as an adjunct to assisted reproductive technology (ART) for people with tubal disease
4.	Searches	No searches will be conducted. A recent Cochrane review has been identified (Melo 2020) and this will be incorporated/adopted into the guideline
5.	Condition or domain being studied	Surgical interventions for female factor fertility problems
6.	Population	Inclusion: • People with a known diagnosis of tubal disease (confirmed by diagnostic surgery, hysterosalpingogram (HSG), hysterosalpingo-contrast sonography, or ultrasound)
7.	Intervention	Tubal surgery (unilateral or bilateral) prior to in vitro fertilisation (IVF): • Salpingectomy • Tubal occlusion • Aspiration of hydrosalpinx fluid

ID	Field	Content
		• Salpingostomy
8.	Comparator	• Head-to-head comparisons of different tubal surgical interventions prior to IVF • No intervention or tubal treatment prior to IVF • Non-surgical intervention prior to IVF
9.	Types of study to be included	This guideline will incorporate/adopt the recent Cochrane review identified (Melo 2020)
10.	Other exclusion criteria	• N/A
11.	Context	This guidance will fully update the following NICE guideline: Fertility problems: assessment and treatment (last updated 2017; CG156)
12.	Primary outcomes (critical outcomes)	• Live birth per participant randomised (defined as the delivery of a live fetus after 22 completed weeks of gestational age) • Surgical complication rate per participant randomised (including intraoperative bleeding, vasomotor instability, infection, need for repeat surgery, or overall complications as defined by the study)
13.	Secondary outcomes (important outcomes)	• Clinical pregnancy rate per participant randomised (defined as the presence of one or more gestational sacs on ultrasound) • Multiple pregnancy rate per participant randomised (defined as number of twin, triplet or higher-order pregnancies confirmed by ultrasound or delivery) • Miscarriage rate per participant randomised (defined as the spontaneous loss of an intrauterine pregnancy prior to 22 completed weeks of gestational age) • Ectopic pregnancy rate per participant randomised (defined as pregnancy outside the uterine cavity as diagnosed by ultrasound, surgical identification or histopathology)
14.	Data extraction (selection and coding)	Analyses from the Melo 2020 Cochrane review will be presented to the committee
15.	Risk of bias (quality) assessment	Risk of bias assessments from the Melo 2020 Cochrane review will be presented to the committee
16.	Strategy for data synthesis	Analyses from the Melo 2020 Cochrane review will be presented to the committee

17.	Analysis of sub-groups	In Melo 2020, planned subgroup analyses are:
		• Female age:
		  • <40 years
		  • ≥40 years

ID	Field	Content			
		Where evidence is sub-grouped the committee will consider on a case-by-case basis if separate recommendations should be made for distinct groups. Separate recommendations may be made where there is evidence of a differential effect of interventions in distinct groups. If there is a lack of evidence in one group, the committee will consider, based on their experience, whether it is reasonable to extrapolate and assume the interventions will have similar effects in that group compared with others.			
18.	Type and method of review	☒	Intervention		
		☐	Diagnostic		
		☐	Prognostic		
		☐	Qualitative		
		☐	Epidemiologic		
		☐	Service Delivery		
		☐	Other (please specify)		
19.	Language	English			
20.	Country	England			
21.	Anticipated or actual start date	September 2023			
22.	Anticipated completion date	November 2024			
23.	Stage of review at time of this submission	Review stage		Started	Completed
		Preliminary searches		☐	☐
		Piloting of the study selection process		☐	☐
		Formal screening of search results against eligibility criteria		☐	☐
		Data extraction		☐	☐
		Risk of bias (quality) assessment		☐	☐
		Data analysis		☐	☐

ID	Field	Content
24.	Named contact	5a. Named contact Guideline development team A 5b. Named contact e-mail FertilityProblems@nice.org.uk 5c. Organisational affiliation of the review Guideline Development Team A, Centre for Guidelines, National Institute for Health and Care Excellence (NICE)
25.	Review team members	• Senior Technical Analyst • Technical Analyst
26.	Funding sources/sponsor	This systematic review is being completed by the National Institute for Health and Care Excellence (NICE)
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10263
29.	Other registration details	None
30.	URL for published protocol	N/A
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: • notifying registered stakeholders of publication

ID	Field	Content	
		• publicising the guideline through NICE's newsletter and alerts • issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.	
32.	Keywords	aspiration; hydrosalpinx; hydrosalpinges; IVF; salpingectomy; tubal occlusion	
33.	Details of existing review of same topic by same authors	None	
34.	Current review status	☒	Ongoing
		☐	Completed but not published
		☐	Completed and published
		☐	Completed, published and being updated
		☐	Discontinued
35..	Additional information	None	
36.	Details of final publication	www.nice.org.uk	

1 *N/A: not applicable*

Appendix B Literature search strategies

Literature search strategies for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

See Appendices 1 to 6 of the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4

Health Economic Literature Search Strategies

Database: Ovid MEDLINE(R) ALL <1946 to January 16, 2024>

Date of last search: 17/01/2024

#	Searches
1	(in vitro fertilisation or in vitro fertilization).tw.
2	(ivf or icsi).tw.
3	intracytoplasmic sperm injection*.tw.
4	reproductive techniques, assisted/ or exp embryo transfer/ or exp fertilization in vitro/ or zygote intrafallopian transfer/
5	(ART or embryo transfer* or et).tw.
6	assisted reproducti* techn*.tw.
7	Pregnancy/
8	pregnan$.tw.
9	Fertility/ or Infertility/ or Infertility, Female/
10	(fertil$ or subfertil$ or infertil$).tw.
11	or/1-10
12	exp Fallopian Tube Diseases/
13	(Fallopian$ adj5 Disease$).tw.
14	Salpingectomy/ or Salpingostomy/
15	salping$.tw.
16	Sterilization, Tubal/
17	(fallopian adj5 (ligat$ or electrocauter$ or occlusion$ or occluded or block$ or clamp$ or factor$ or adhesion$)).tw.
18	(tub$ adj5 adhesion$).tw.
19	(tub$ adj5 occlusion$).tw.
20	(tub$ adj3 disease$).tw.
21	(tub$ adj3 factor$).tw.
22	(tub$ adj5 block$).tw.
23	(tub$ adj5 (clamp$ or clip$)).tw.
24	(tub$ adj3 electrocaut$).tw.
25	(tub$ adj5 Filshie$).tw.
26	(tub$ adj3 ligat$).tw.
27	hydrosalpin$.tw.
28	gynecologic surgical procedures/
29	(surg$ adj5 tub$).tw.
30	(surg$ adj5 fallopian$).tw.
31	(laparoscop$ adj5 (tube$ or tubal)).tw.
32	Endoscopic Ultrasound-Guided Fine Needle Aspiration/
33	(ultrasound guided adj5 aspiration$).tw.
34	(aspirat$ adj5 (tube$ or tubal)).tw.
35	((tube$ or tubal) adj5 interrupt$).tw.
36	essure$.tw.
37	(clip$ adj5 fallopian$).tw.
38	hysteroscop$.tw.

#	Searches
39	or/12-38
40	fallopian tubes/
41	microsurgery/ or minimally invasive surgical procedures/ or Electrosurgery/ or Electrocoagulation/ or Laparoscopy/ or Laparoscopes/ or Hand-assisted laparoscopy/ or hysteroscopy/
42	40 and 41
43	fallopian tubes/su or Fallopian Tube Diseases/su or Infertility, Female/su
44	39 or 42 or 43
45	11 and 44
46	letter/
47	editorial/
48	news/
49	exp historical article/
50	Anecdotes as topic/
51	comment/
52	case reports/
53	(letter or comment*).ti.
54	or/46-53
55	randomized controlled trial/ or random*.ti,ab.
56	54 not 55
57	animals/ not humans/
58	exp Animals, Laboratory/
59	exp Animal Experimentation/
60	exp Models, Animal/
61	exp Rodentia/
62	(rat or rats or rodent* or mouse or mice).ti.
63	or/56-62
64	45 not 63
65	limit 64 to english language
66	Economics/
67	Value of life/
68	exp "Costs and Cost Analysis"/
69	exp Economics, Hospital/
70	exp Economics, Medical/
71	exp Resource Allocation/
72	Economics, Nursing/
73	Economics, Pharmaceutical/
74	exp "Fees and Charges"/
75	exp Budgets/
76	budget*.ti,ab.
77	cost*.ti,ab.
78	(economic* or pharmaco?economic*).ti,ab.
79	(price* or pricing*).ti,ab.
80	(financ* or fee or fees or expenditure* or saving*).ti,ab.
81	(value adj2 (money or monetary)).ti,ab.
82	resourc* allocat*.ti,ab.
83	(fund or funds or funding* or funded).ti,ab.
84	(ration or rations or rationing* or rationed).ti,ab.
85	ec.fs.
86	or/66-85
87	quality-adjusted life years/
88	sickness impact profile/
89	(quality adj2 (wellbeing or well being)).ti,ab.
90	sickness impact profile.ti,ab.
91	disability adjusted life.ti,ab.

#	Searches
92	(qal* or qtime* or qwb* or daly*).ti,ab.
93	(euroqol* or eq5d* or eq 5*).ti,ab.
94	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
95	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
96	(hui or hui1 or hui2 or hui3).ti,ab.
97	(health* year* equivalent* or hye or hyes).ti,ab.
98	discrete choice*.ti,ab.
99	rosser.ti,ab.
100	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
101	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
102	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
103	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
104	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
105	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
106	or/87-105
107	65 and (86 or 106)

1 **Database: Embase <1974 to 2024 January 16>**

2 **Date of last search: 17/01/2024**

#	Searches
1	(in vitro fertilisation or in vitro fertilization).tw.
2	(ivf or icsi).tw.
3	intracytoplasmic sperm injection*.tw.
4	infertility therapy/ or exp embryo transfer/ or exp in vitro fertilization/ or zygote intrafallopian transfer/
5	(ART or embryo transfer* or et).tw.
6	assisted reproducti* techn*.tw.
7	Pregnancy/
8	pregnan$.tw.
9	fertility/ or female fertility/ or infertility/ or female infertility/
10	(fertil$ or subfertil$ or infertil$).tw.
11	or/1-10
12	exp uterine tube disease/
13	(Fallopian$ adj5 Disease$).tw.
14	salpingostomy/
15	salping$.tw.
16	exp uterine tube sterilization/
17	(fallopian adj5 (ligat$ or electrocauter$ or occlusion$ or occluded or block$ or clamp$ or factor$ or adhesion$)).tw.
18	(tub$ adj5 adhesion$).tw.
19	(tub$ adj5 occlusion$).tw.
20	(tub$ adj3 disease$).tw.
21	(tub$ adj3 factor$).tw.
22	(tub$ adj5 block$).tw.
23	(tub$ adj5 (clamp$ or clip$)).tw.
24	(tub$ adj3 electrocaut$).tw.
25	(tub$ adj5 Filshie$).tw.
26	(tub$ adj3 ligat$).tw.
27	hydrosalpin$.tw.
28	gynecologic surgery/ or uterine tube surgery/ or salpingoplasty/
29	(surg$ adj5 tub$).tw.
30	(surg$ adj5 fallopian$).tw.
31	(laparoscop$ adj5 (tube$ or tubal)).tw.
32	ultrasound guided fine needle aspiration/
33	(ultrasound guided adj5 aspiration$).tw.

#	Searches
34	(aspirat$ adj5 (tube$ or tubal)).tw.
35	((tube$ or tubal) adj5 interrupt$).tw.
36	essure$.tw.
37	(clip$ adj5 fallopian$).tw.
38	hysteroscop$.tw.
39	or/12-38
40	fallopian tube/
41	Surgery/ or microsurgery/ or minimally invasive surgery/ or minimally invasive procedure/ or electrosurgery/ or electrocoagulation/ or laparoscopy/ or hand assisted laparoscopy/ or laparoscopic surgery/ or exp laparoscope/ or hysteroscopy/
42	40 and 41
43	uterine tube disease/su or female infertility/su
44	39 or 42 or 43
45	11 and 44
46	letter.pt. or letter/
47	note.pt.
48	editorial.pt.
49	case report/ or case study/
50	(letter or comment*).ti.
51	or/46-50
52	randomized controlled trial/ or random*.ti,ab.
53	51 not 52
54	animal/ not human/
55	nonhuman/
56	exp Animal Experiment/
57	exp Experimental Animal/
58	animal model/
59	exp Rodent/
60	(rat or rats or rodent* or mouse or mice).ti.
61	or/53-60
62	45 not 61
63	limit 62 to english language
64	(conference abstract* or conference review or conference paper or conference proceeding).db,pt,su.
65	63 not 64
66	health economics/
67	exp economic evaluation/
68	exp health care cost/
69	exp fee/
70	budget/
71	funding/
72	resource allocation/
73	budget*.ti,ab.
74	cost*.ti,ab.
75	(economic* or pharmaco?economic*).ti,ab.
76	(price* or pricing*).ti,ab.
77	(financ* or fee or fees or expenditure* or saving*).ti,ab.
78	(value adj2 (money or monetary)).ti,ab.
79	resourc* allocat*.ti,ab.
80	(fund or funds or funding* or funded).ti,ab.
81	(ration or rations or rationing* or rationed).ti,ab.
82	or/66-81
83	quality adjusted life year/
84	"quality of life index"/
85	short form 12/ or short form 20/ or short form 36/ or short form 8/

#	Searches
86	sickness impact profile/
87	(quality adj2 (wellbeing or well being)).ti,ab.
88	sickness impact profile.ti,ab.
89	disability adjusted life.ti,ab.
90	(qal* or qtime* or qwb* or daly*).ti,ab.
91	(euroqol* or eq5d* or eq 5*).ti,ab.
92	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
93	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
94	(hui or hui1 or hui2 or hui3).ti,ab.
95	(health* year* equivalent* or hye or hyes).ti,ab.
96	discrete choice*.ti,ab.
97	rosser.ti,ab.
98	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
99	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
100	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
101	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
102	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
103	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
104	or/83-103
105	65 and (82 or 104)

1

2 **Database: INAHTA**

3 **Date of last search: 17/01/2024**

#	Searches
1	"in vitro fertilisation" or "in vitro fertilization"
2	ivf or icsi
3	"intracytoplasmic sperm injection" or "intracytoplasmic sperm injections"
4	"Reproductive Techniques, Assisted"[mh]
5	"Embryo Transfer"[mhe]
6	"Fertilization in Vitro"[mhe]
7	"Zygote Intrafallopian Transfer"[mh]
8	ART or "embryo transfer" or "embryo transfers" or et
9	assisted reproducti* techn*
10	"Pregnancy"[mh]
11	pregnan*
12	"Fertility"[mh]
13	"Infertility"[mh]
14	"Infertility, Female"[mh]
15	fertil* or subfertil* or infertil*
16	#15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 OR #5 OR #4 OR #3 OR #2 OR #1
17	"Fallopian Tube Diseases"[mhe]
18	(Fallopian* and Disease*)
19	"Salpingectomy"[mh]
20	"Salpingostomy"[mh]
21	salping*
22	"Sterilization, Tubal"[mh]
23	(fallopian AND (ligat* or electrocauter* or occlusion* or occluded or block* or clamp* or factor* or adhesion*))
24	(tub* and adhesion*)
25	(tub* and occlusion*)
26	(tub* and disease*)
27	(tub* and factor*)
28	(tub* and block*)

#	Searches
29	(tub* and (clamp* or clip*))
30	(tub* and electrocaut*)
31	(tub* and Filshie*)
32	(tub* and ligat*)
33	hydrosalpin*
34	"Gynecologic Surgical Procedures"[mh]
35	(surg* and tub*)
36	(surg* and fallopian*)
37	(laparoscop* and (tube* or tubal))
38	"Endoscopic Ultrasound-Guided Fine Needle Aspiration"[mh]
39	("ultrasound guided" AND aspiration*)
40	(aspirat* and (tube* or tubal))
41	((tube* or tubal) and interrupt*)
42	essure*
43	(clip* and fallopian*)
44	hysteroscop*
45	#44 OR #43 OR #42 OR #41 OR #40 OR #39 OR #38 OR #37 OR #36 OR #35 OR #34 OR #33 OR #32 OR #31 OR #30 OR #29 OR #28 OR #27 OR #26 OR #25 OR #24 OR #23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17
46	#45 AND #16
47	"Fallopian Tubes"[mh]
48	"Microsurgery"[mh]
49	"Minimally Invasive Surgical Procedures"[mh]
50	"Electrosurgery"[mh]
51	"Electrocoagulation"[mh]
52	"Laparoscopy"[mh]
53	"Laparoscopes"[mh]
54	"Hand-Assisted Laparoscopy"[mh]
55	"Hysteroscopy"[mh]
56	#55 OR #54 OR #53 OR #52 OR #51 OR #50 OR #49 OR #48
57	#56 AND #47
58	#57 OR #46

1

2 **Database: HTA via CRD**

3 **Date of last search: 17/01/2024**

#	Searches
1	("in vitro fertilisation" or "in vitro fertilization")
2	(ivf or icsi)
3	(intracytoplasmic NEXT sperm NEXT injection*)
4	MESH DESCRIPTOR Reproductive Techniques, Assisted
5	MESH DESCRIPTOR Embryo Transfer EXPLODE ALL TREES
6	MESH DESCRIPTOR Fertilization in Vitro EXPLODE ALL TREES
7	MESH DESCRIPTOR Zygote Intrafallopian Transfer
8	(ART or (embryo NEXT transfer*) or et)
9	(assisted NEXT reproducti* NEXT techn*)
10	MESH DESCRIPTOR Pregnancy
11	(pregnan*)
12	MESH DESCRIPTOR Fertility
13	MESH DESCRIPTOR Infertility
14	MESH DESCRIPTOR Infertility, Female
15	(fertil* or subfertil* or infertil*)
16	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15

#	Searches
17	MESH DESCRIPTOR Fallopian Tube Diseases EXPLODE ALL TREES
18	(Fallopian* NEAR5 Disease*)
19	MESH DESCRIPTOR Salpingectomy
20	MESH DESCRIPTOR Salpingostomy
21	salping*
22	MESH DESCRIPTOR Sterilization, Tubal
23	(fallopian NEAR5 (ligat* or electrocauter* or occlusion* or occluded or block* or clamp* or factor* or adhesion*))
24	(tub* NEAR5 adhesion*)
25	(tub* NEAR5 occlusion*)
26	(tub* NEAR3 disease*)
27	(tub* NEAR3 factor*)
28	(tub* NEAR5 block*)
29	(tub* NEAR5 (clamp* or clip*))
30	(tub* NEAR3 electrocaut*)
31	(tub* NEAR5 filshie*)
32	(tub* NEAR3 ligat*)
33	hydrosalpin*
34	MESH DESCRIPTOR Gynecologic Surgical Procedures
35	(surg* NEAR5 tub*)
36	(surg* NEAR5 fallopian*)
37	(laparoscop* NEAR5 (tube* or tubal))
38	MESH DESCRIPTOR Endoscopic Ultrasound-Guided Fine Needle Aspiration
39	("ultrasound guided" NEAR5 aspiration*)
40	(aspirat* NEAR5 (tube* or tubal))
41	((tube* or tubal) NEAR5 interrupt*)
42	essure*
43	(clip* NEAR5 fallopian*)
44	hysteroscop*
45	#17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43 or #44
46	MESH DESCRIPTOR Fallopian Tubes
47	MESH DESCRIPTOR Microsurgery
48	MESH DESCRIPTOR Minimally Invasive Surgical Procedures
49	MESH DESCRIPTOR Electrosurgery
50	MESH DESCRIPTOR Electrocoagulation
51	MESH DESCRIPTOR Laparoscopy
52	MESH DESCRIPTOR Laparoscopes
53	MESH DESCRIPTOR Hand-Assisted Laparoscopy
54	MESH DESCRIPTOR Hysteroscopy
55	#47 or #48 or #49 or #50 or #51 or #52 or #53 or #54
56	#46 and #55
57	#45 or #56
58	#16 and #57

1
2

Appendix C Effectiveness evidence study selection

Study selection for: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

See results of the search – figure 1 from the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4.

Appendix D Characteristics of studies tables

Characteristics of studies tables for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

See the characteristics of included studies tables from the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4.

Appendix E Forest plots

Forest plots for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

See forest plots from the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4.

Appendix E Summary of findings tables

Summary of findings tables for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

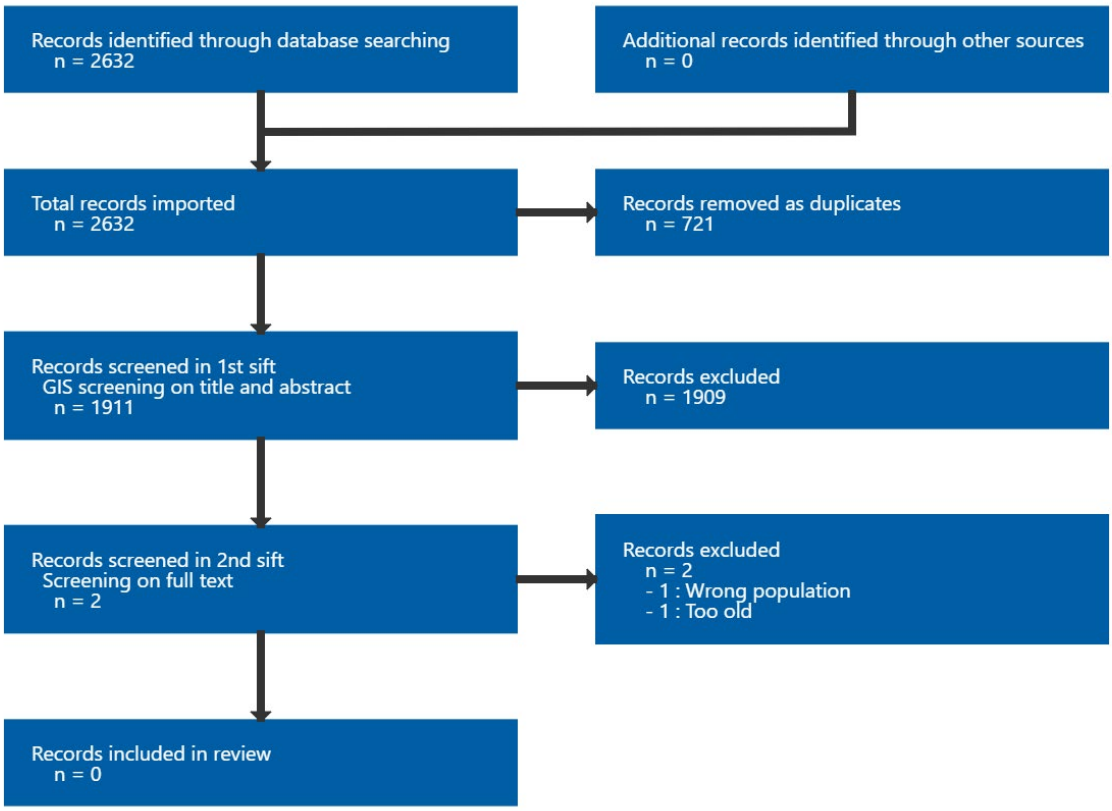
See the summary of findings tables from the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4.

Appendix F Economic evidence study selection

Study selection for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

No economic evidence was identified which was applicable to this review question.

Figure 1: Study selection flow chart



Appendix G Economic evidence tables

Economic evidence tables for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

No evidence was identified which was applicable to this review question.

Appendix H Economic model

Economic model for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

No economic analysis was conducted for this review question.

Appendix I Excluded studies

Excluded studies for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

Excluded effectiveness studies

See the characteristics of excluded studies table from the Cochrane review (Melo 2020): https://doi.org/10.1002/14651858.CD002125.pub4.

Excluded economic studies

Table 4: Excluded studies and reasons for their exclusion

Study	Code
Strandell, Annika; Lindhard, Anette; Eckerlund, Ingemar (2005) Cost--effectiveness analysis of salpingectomy prior to IVF, based on a randomized controlled trial. Human reproduction (Oxford, England) 20(12): 3284-92	- Too old
Verhoeve, H R, Moolenaar, L M, Hompes, P et al. (2013) Cost-effectiveness of tubal patency tests. BJOG: an international journal of obstetrics and gynaecology 120(5): 583-93	- Wrong population

Appendix J Research recommendations – full details

Research recommendations for review question: What is the clinical and cost effectiveness of surgery for hydrosalpinges prior to assisted reproductive technology (ART), relative to standard ART without prior surgical optimisation, for people with tubal disease?

No research recommendations were made for this review question.