**Supplemental Information: Literature Search**

Electronic literature searches were conducted by a medical librarian experienced in systematic review searching. Databases included in the review were PubMed, Embase and Cochrane Database. Studies were included if they were published between January 1st 2000 and December 31st 2021. Review was limited to literature published in English and to studies conducted in humans. Randomized Controlled Clinical Trials, Systematic Reviews and/or Meta-analyses, Guidelines, Controlled Clinical Studies, Retrospective Studies, and Prospective Studies were included. Review articles, case reports, in-vivo studies, animal studies, editorials, letters to editors, comments and non-study journal articles were excluded. Identified full text article abstracts were reviewed and included in the final analysis when relevant to PICO questions considered in this guideline.

Full text articles assessed for eligibility

N=444

Articles included for synthesis

N=70

Full text articles excluded

N=374

*Studies indirect to guideline PICOs*

*Included*

*Eligibility*

Records excluded

N=1151

*Studies were limited to English language, RCTs, systematic reviews, guideline documents, meta-analysis, controlled clinical studies, retrospective and prospective studies*

Records screened

N=1595

Records after duplicates removed

N=1595

Additional records identified through other sources

N=113

(Cochrane Library)

Records identified through database searching

N= 2493

(PubMed, Embase)

*Screening*

*Identification*

**Literature Search Methods: ACG Guideline for the Diagnosis & Management of Subepithelial Lesions**

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Electronic literature searches were conducted by a medical librarian experienced in systematic review searching. After meeting with the clinician/reviewers and discussing the parameters for the project, the inclusion and exclusion criteria, and the search strategy components, the medical librarian began preliminary searches using the inclusion and exclusion criteria below:

**Inclusion and Exclusion criteria:**

* **Included** publication types:
	+ Randomized Controlled Clinical Trials, Systematic Reviews and/or Meta-analyses, Guidelines,
	+ Controlled Clinical Studies, Retrospective Studies, Prospective Studies.
* **Excluded** publication types:
	+ Reviews, Case Reports, In-vivo studies, Animal Studies, Editorials, Letters, Comments, Non-study Journal Articles.
* **Published** from 2000 through 2020 December 31.
* **English** Language,
* **Humans** Only.

The preliminary scoping search results revealed a large body of national and international SEL and EUS literature. However, these preliminary results revealed large numbers of Case Reports/Series, non-systematic Reviews, and unfortunately, fewer rigorous, evidence-based study types such as RCTs, guidelines, systematic reviews, etc. By revising search strategies with additional clinical study type synonyms and phrases the numbers of relevant study types increased somewhat.

These searches were run throughout September and October 2020, with a final update completed on December 31, 2020. First steps identified the three search concepts using scoping searches to retrieve the broadest variety of topic words, phrases, and descriptors for the concepts and required study types.

The first search strategy developed was the concept for diagnostic and therapeutic ultrasound technologies used to identify, diagnose, and treat the subepithelial/submucosal lesions, **SELS**. A range of terms for endoscopic ultrasound, endoscopic ultrasound biopsy, fine needle aspiration, endoscopic dissection or resection along with other synonyms and variations were identified by the scoping searches.

The second and third search strategies address the lesion/tumor types: subepithelial/submucosal gastrointestinal lesions concept, and the gastrointestinal stromal tumors, or **GISTS** concept. Each concept contained a wide range of words, phrases and synonyms collected from the scoping searches to ensure comprehensive results.

**The broad search concepts:**

1. **Diagnosis and treatment of subepithelial lesions, SELS using diagnostic and therapeutic ultrasound technologies.**
2. **Subepithelial or submucosal lesions or tumors.**
3. **Gastrointestinal stromal tumors or GISTs.**

The concepts, were searched and then combined as **1 AND 2** or **1 AND 3**. They were first run in **PubMed©** as it contained the largest number of citations. Also, in **PubMed©** one can **s**earch for “*multiple word phrases*” by using quotation marks. Searching the wide range of phrases in all three concepts captures as many synonyms as possible. Next, the search concepts were searched in the **EMBASE**© database, with **The Cochrane Library**©searched last. The three search strategies are included in the appendix at the end of this document.

A few words about the structure of **The Cochrane Library**©. The Cochrane Library contains five components searchable as a whole or selectively using both free text and the **PubMed©** MeSH (Medical Subject Headings). The five components are: Cochrane Systematic Reviews, Cochrane Study Protocols, Central Trials, Editorials, and Special Collections. For this project only two components were searched: **Cochrane Reviews**, and **CENTRAL** (Cochrane Central Register of Controlled Clinical Trials). These two are searched most often when seeking evidence-based systematic reviews and clinical trials results literature. **CENTRAL** is a robust comprehensive database pulling together citations/records from PubMed and Embase, along with records from other published and unpublished sources, including CINAHL, ClinicalTrials.gov and the WHO's International Clinical Trials Registry Platform.

**PubMed**© generated the largest number of results, 1562 in English. **EMBASE**© yielded 931, and **The Cochrane Library**© yielded 113 citations, excluded were any clinical trials underway and without any resulting publications. The 2606 citations were uploaded into the EndNote© reference management software which enables in-depth precise searching of these citations once downloaded into it. EndNote aids the de-duplication process by identifying the duplicates and allowing the medical librarian to select the most complete cites to retain.

Endnote’s custom search feature allowed the medical librarian create multiple detailed search queries (up to 15 lines) to search within the ENL (EndNote Library) for words, phrases, numbers, and more. Users can also search the content of the downloaded article PDFs. The detailed EndNote search queries tool enabled the medical librarian to identify both included study types and remove the excluded study types. EndNote search strategies removed duplicates yielding 1595 citations after de-duplication. Of those 1595 citations, 1151 were excluded from review for not meeting the inclusion criteria leaving 444 broadly meeting the inclusion criteria below.

Using EndNote’s Group feature the medical librarian grouped the 444 results into bibliographies by study type: **a. RCTs, Clinical Trials, Guidelines, Systematic Reviews and Meta-Analyses**, **b. Prospective Studies, Retrospective Studies, c. EMBASE and Cochrane Results.** The citation groups were exported to MS Word to create bibliographies. The bibliographies included: citation, abstract, keywords, study type labels, and notes for the clinician/reviewers.

As the clinician/reviewers were not EndNote users, the medical librarian created a private Google Drive to deliver the literature search results bibliographies, and the article PDFs to them for their critical appraisal. The Google Drive contained the project documents, article PDFs, and MS-Word bibliographies mentioned above. The medical librarian uploaded the easily retrievable article PDFs from the EndNote Library into the Google Drive; 163 initially, 288 in total were uploaded.

**In-Depth Search Results Details:**

1st **PubMed Searches:** 10 Guidelines + 26 RCTs + 127 + 8 Sys Rev (1 doc was not a Systematic Review but rather a Letter commenting on one: ZHANG 2016) **171**

2nd **PubMed Revised Search:** 177+18+26 = **221**

3rd **Updated Final PubMed Search**: 9/1/2020 to 12/31/20 PubMed retrieved 78 reviewed for duplicates & inclusion criteria = **19**

**TOTAL PubMed Retrieved & Reviewed:** **411 out of 1562 English cites**

**OVID EMBASE:** Total downloaded from EMBASE, **931** citations. They reviewed for inclusion: (46 wrong dates pre-2000), leaving 885. Next 447 conference abstracts without published articles were removed. The remaining 438 citations were scanned for non-English citations and 59 were removed. The remaining 379 were then leaving were reviewed for case reports with 70 removed, as well 38 traditional (not systematic) reviews were also deleted along with animal, in vitro studies, off topic/false drops, etc., leaving 186 citations to assess. These were reviewed for inclusion study types: RCTs, Retrospective Studies, Systematic Reviews & Meta-analyses, and Controlled Clinical Studies. Of these 186 EMBASE citations 161 were duplicates leaving **25** to be retained and reviewed by the authors.

**The COCHRANE Library:** Total downloaded: **113** (9 SR & 104) reviewed for inclusion, excluded 47 registered trials, included 1 systematic review on topic (MOCELLIN 2015), included 26 journal articles reporting trials and results. After uploading into EndNote there were 19 duplicates removed resulting in 8 items for review: **8 of 113 citations included in the 444 articles for review.**

**PubMed 1562 + EMBASE 931 + Cochrane Library & CCTR 113 = 2606 ALL**

**Deduplicated: PubMed 1562 + EMBASE 25 + Cochrane 8 = 1595**

**Reviewed: PubMed 411 + EMBASE 25 + Cochrane 8 = 444**