

Appendix A. Search Strategy

Database: Ovid MEDLINE (R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily <1946 to May 08, 2020>

Search Strategy:

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- 1 exp Disease Outbreaks/ (96117)
 - 2 (pandemic* or epidemic* or outbreak* or out break*).mp. (230774)
 - 3 1 or 2 (231940)
 - 4 exp Coronavirus (13456)
 - 5 coronavirus infections/ or severe acute respiratory syndrome/ (11068)
 - 6 Coronaviridae Infections/ (900)
 - 7 coronaviridae/ or coronavirus/ (3916)
 - 8 Influenza a virus, h1n1 subtype/ or Influenza a virus, h3n2 subtype/ or influenza a virus, h5n1 subtype/ (22141)
 - 9 Hemorrhagic Fever, Ebola/ (5316)
 - 10 SARS Virus/ (3038)
 - 11 Middle East Respiratory Syndrome Coronavirus/ (1034)
 - 12 (pneumonia.mp. or exp pneumonia/) and Wuhan.mp. (661)
 - 13 (coronavir* or COVID-19 or SARS-related coronavirus or SARS-CoV-2 or 2019 novel coronavirus or 2019-nCoV or nCoV or h1n1 or h3n2 or h5n1 or avian influenza or avian flu or swine influenza or swine flu or SARS or ebola* or middle east respiratory syndrome or MERS).mp. (77950)
 - 14 (wuhan) adj2 (coronavir* or flu or pneumonia* or COVID-19 or 2019-nCoV).mp. (190)
 - 15 (coronavir*) adj2 (infection*).mp. (8441)
 - 16 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 (79915)
 - 17 General Surgery/ (38626)
 - 18 Orthopedic Procedures/ (25371)
 - 19 Traumatology/ (3474)
 - 20 Neurosurgery/ (14892)
 - 21 Obstetrics/ (22533)
 - 22 Anesthesia/ (62587)
 - 23 surgical procedures, operative/ or exp elective surgical procedures/ (68085)
 - 24 exp Arthroplasty, Replacement/ (54362)
 - 25 (general surgery or orthopaedic or orthopedic or trauma or neurosurgery or obstetrics or anesthesia or anaesthesia).mp. (748651)
 - 26 (surger* or operation* or procedure*).mp. (3638036)
 - 27 ((elective or non-urgent) adj2 (surg* or procedure*)).mp. (31794)
 - 28 (surg* adj2 (procedure* or planning or triage or operation* or resource* or backlog or re-organiz* or postpone* or cancel* or capacit* or wait time*)).mp. (444474)
 - 29 ((clinic* or hospital) adj2 (process* or procedure* or triage or planning or performance* or capacit*)).mp. (69185)
 - 30 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 (4101483)
 - 31 3 and 16 and 30 (2075)
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Database: EMBASE <1974 to 2020 May 08>**Search Strategy:**

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- 1 exp epidemic/ (103292)
 - 2 exp pandemic/ (12990)
 - 3 1 or 2 (114458)
 - 4 pandemic influenza/ (4748)
 - 5 exp severe acute respiratory syndrome/ (8505)
 - 6 exp coronaviridae/ or coronaviridae infection/ (14928)
 - 7 coronavirinae/ (2093)
 - 8 Coronavirus infection/ (3397)
 - 9 avian influenza virus/ or “influenza a virus (h1n1)”/ or “influenza a virus (h3n2)”/, “influenza a virus (h5n1)”/ (7466)
 - 10 Ebola hemorrhagic fever/ (5712)
 - 11 exp SARS coronavirus/ (5823)
 - 12 Middle East respiratory syndrome/ (935)
 - 13 (pneumonia.mp. or exp pneumonia/) and Wuhan.mp. (512)
 - 14 (coronavir* or COVID-19 or SARS-related coronavirus or SARS-CoV-2 or 2019 novel coronavirus or 2019-nCoV or nCoV).mp. (92353)
 - 15 (wuhan adj2 (coronavir* or flu or pneumonia* or COVID-19 or 2019-nCoV)).mp. (161)
 - 16 (coronavir* adj2 infection*).mp. (4793)
 - 17 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 (96712)
 - 18 general surgery/ (15070)
 - 19 orthopedic surgery/ (32672)
 - 20 traumatology/ (10653)
 - 21 neurosurgery/ (59847)
 - 22 obstetrics/ (34886)
 - 23 anesthesiological procedure/ (1785)
 - 24 elective surgery/ (34038)
 - 25 replacement arthroplasty/ or exp arthroplasty/ (73583)
 - 26 (general surgery or orthopaedic or orthopedic or trauma or neurosurgery or obstetrics or anaesthesia or anesthesia).mp. (966732)
 - 27 (surger* or operation* or procedure*).mp. (5402047)
 - 28 ((elective or non-urgent adj2 (surg* or procedure*)).mp. (52808)
 - 29 (surg* adj2 (procedure* or planning or triag* or operation* or resource* or backlog or re-organiz* or postpon* or cancel* or capac* or wait time*)).mp. (187480)
 - 30 ((clinic* or hospital) adj2 (process* or procedure* or triag* or planning or performance* or capac*)).mp. (83715)
 - 31 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 (5948860)
 - 32 3 and 17 and 31 (1844)
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Database	Pandemic terms Pandemic, epidemic	Disease terms COVID-19, SARS, MERS, pandemic flu (h1n1, h3n2, h5n1), ebola	Surgical terms Non-urgent/elective surgery (general, orthopedic, anesthesia, trauma, neurosurgery, obstetrics)
MEDLINE	exp Disease Outbreaks/ OR (pandemic* or epidemic* or outbreak* or out break*).mp.	exp Coronavirus OR coronavirus infections/ or severe acute respiratory syndrome/ OR Coronaviridae Infections/ OR coronaviridae/ or coronavirus/ OR Influenza a virus, h1n1 subtype/ or Influenza a virus, h3n2 subtype/ or influenza a virus, h5n1 subtype/ OR Hemorrhagic Fever, Ebola/ OR SARS Virus/ OR Middle East Respiratory Syndrome Coronavirus/ OR (pneumonia.mp. or exp pneumonia/) and Wuhan.mp. OR (coronavir* or COVID-19 or SARS-related coronavirus or SARS- CoV-2 or 2019 novel coronavirus or 2019-nCoV or nCoV or h1n1 or h3n2 or h5n1 or avian influenza or avian flu or swine influenza or swine flu or SARS or ebola* or middle	General Surgery/ OR Orthopedic Procedures/ OR Traumatology/ OR Neurosurgery/ OR Obstetrics/ OR Anesthesia/ OR surgical procedures, operative/ or exp elective surgical procedures/ OR exp Arthroplasty, Replacement/ OR (general surgery or orthopaedic or orthopedic or trauma or neurosurgery or obstetrics or anesthesia or anaesthesia).mp. OR (surger* or operation* or procedure*).mp. OR ((elective or non-urgent) adj2 (surg* or procedure*)).mp. OR (surg* adj2 (procedure* or planning or triage or operation* or resource* or backlog or re-organiz* or postpone* or cancel* or capacit* or wait time*)).mp.

		east respiratory syndrome or MERS).mp. OR (wuhan) adj2 (coronavir* or flu or pneumonia* or COVID-19 or 2019-nCoV).mp. OR (coronavir*) adj2 (infection*).mp.	OR ((clinic* or hospital) adj2 (process* or procedure* or triage or planning or performance* or capacit*).mp.
EMBASE	exp epidemic/ OR exp pandemic/	pandemic influenza/ OR exp severe acute respiratory syndrome/ OR exp coronaviridae/ or coronaviridae infection/ OR coronavirinae/ OR Coronavirus infection/ OR avian influenza virus/ or “influenza a virus (h1n1)”/ or “influenza a virus (h3n2)”/, “influenza a virus (h5n1)”/ OR Ebola hemorrhagic fever/ OR exp SARS coronavirus/ OR Middle East respiratory syndrome/ OR (pneumonia.mp. or exp pneumonia/) and Wuhan.mp. OR (coronavir* or COVID-19 or SARS-related coronavirus or SARS-CoV-2 or 2019 novel coronavirus or 2019-nCoV or nCoV).mp. OR	general surgery/ OR orthopedic surgery/ OR traumatology/ OR neurosurgery/ OR obstetrics/ OR anesthesiological procedure/ OR elective surgery/ OR replacement arthroplasty/ or exp arthroplasty/ OR (general surgery or orthopaedic or orthopedic or trauma or neurosurgery or obstetrics or anaesthesia or anaesthesia).mp. OR (surger* or operation* or procedure*).mp. OR ((elective or non-urgent adj2 (surg* or procedure*).mp. OR (surg* adj2 (procedure* or planning or triag* or operation* or resource* or backlog or re-organiz* or postpon* or cancel* or

		(wuhan adj2 (coronavir* or flu or pneumonia* or COVID-19 or 2019-nCoV)).mp. OR (coronavir* adj2 infection*).mp.	capacit* or wait time*).mp. OR ((clinic* or hospital) adj2 (process* or procedure* or triag* or planning or performance* or capacit*).mp.
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GREY LITERATURE SEARCH PLAN

Developed in reference to Guide from the University of Toronto (Stapleton, Fuller & Lenton)

STEP 1) Targeted Website Browsing. Will be using any combination of standard terms “coronavirus” OR “Covid-19” OR “Surgery” OR “non-urgent surgery” OR “elective surgery” OR “guidelines”)

NON-GOVERNMENT GROUPS

World Health Organization (<https://www.who.int>)

Center for Disease Control and Prevention (<https://www.cdc.gov>)

European Centre for Disease Prevention and Control (<https://www.ecdc.europa.eu/en>)

GOVERNMENTS/HEALTH SYSTEMS

Canada (<https://www.canada.ca/en.html>)

- BC (<https://www2.gov.bc.ca/gov/content/home>)
- AB (<https://www.alberta.ca/index.aspx>)
- SK (<https://www.saskatchewan.ca>)
- MB (<https://www.gov.mb.ca>)
- ON (<https://www.ontario.ca/page/government>)
- QC (<https://www.quebec.ca/en/>)
- NB (<https://www2.gnb.ca>)
- NS (<https://beta.novascotia.ca>)
- NL & LB (<https://www.gov.nl.ca>)
- PEI (<https://www.princeedwardisland.ca/en>)
- Yukon (<https://yukon.ca>)
- NWT (<https://www.gov.nt.ca>)
- Nunavut (<https://www.gov.nu.ca>)

Australia (<https://www.australia.gov.au>)

Italy (<http://www.governo.it>)

Singapore (<https://www.gov.sg>)

China (<https://www.gov.cn/english/>)

USA (<https://www.usa.gov>)

GENERAL SURGICAL GROUPS/COLLEGES

Royal College of Physicians and Surgeons of Canada (<http://www.royalcollege.ca>)
 American College of Surgeons (<https://www.facs.org>)
 European Surgical Association (<https://www.europeansurgicalassociation.org>)
 College of Surgeons, Singapore (<https://www.ams.edu.sg/colleges/CSS/home>)
 French Surgical Association
 German Society of Surgery (<https://www.dgch.de/index.php?id=118>)
 Italian Society of Surgery (SIC) and Italian Association of Hospital Surgeons (ACOI)
 Philippine College of Surgeons (<https://www.pcs.org.ph>)
 Royal Australasian College of Surgeons (<https://www.surgeons.org>)
 Royal College of Surgeons of England (<https://www.rcseng.ac.uk>)
 Royal College of Surgeons of Ireland (<https://www.rcsi.com/dublin/>)
 Spanish Society of Surgery (Asociacion Espanola de Cirujanos) (<https://www.aecirujanos.es>)
 Swedish Surgical Society (<http://www.svenskkirurgi.se>)
 The Association of Surgeons of South Africa (<http://www.surgeon.co.za>)
 The Pan African Association of Surgeons (<http://www.africansurgeons.com>)

STEP 2) Advanced Google Searching. Targeting above sites will assess 5 pages of Google Search past last click. Will be using standard and consistent terms “coronavirus” OR “Covid-19” OR “Surgery” OR “non-urgent” OR “guidelines”

STEP 3) General Search Engine (Google) Search with same terms as above, assessing 5 pages past last click for relevance.

STEP 4) Contact with Knowledge Experts.

Source and Site	Search Terms	Potentially Relevant Results
Health Groups		
World Health Organization (https://www.who.int , Advanced Search)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	10
Center for Disease Control and Prevention (https://www.cdc.gov)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	8
European Centre for Disease Prevention and Control (https://www.ecdc.europa.eu/en)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	3
Governments		
Government of Canada (https://www.canada.ca/en.html)	[contains all words] elective surgery covid	4

	[contains all words] non-urgent surgery covid	
Government of BC (https://www2.gov.bc.ca/gov)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	2
Government of AB (https://www.alberta.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	2
Government of SK (https://www.saskatchewan.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	6
Government of MB (https://www.gov.mb.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	4
Government of ON (https://www.ontario.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Government of QC (https://www.quebec.ca/en/)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of NB (https://www2.gnb.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Government of NS (https://beta.novascotia.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Government of NL & LB (https://www.gov.nl.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Government of PEI (https://www.princeedwardisland.ca)	[contains all words] elective surgery covid	2

	[contains all words] non-urgent surgery covid	
Government of Yukon (https://yukon.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Government of NWT (https://www.gov.nt.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of Nunavut (https://www.gov.nu.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of Australia (https://www.australia.gov.au)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of Italy (http://www.governo.it)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of Singapore (https://www.gov.sg)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Government of China (https://www.gov.cn/english/)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
United States Government (https://www.usa.gov)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Surgical Colleges/Associations		
Royal College of Physicians and Surgeons of Canada (http://www.royalcollege.ca)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0

American College of Surgeons (https://www.facs.org)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	23
European Surgical Association (https://www.europeansurgicalassociation.org)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
College of Surgeons, Singapore (https://www.ams.edu.sg)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	3
German Society of Surgery (https://www.dgch.de/index.php?id=118)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Philippine College of Surgeons (https://www.pcs.org.ph)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	11
Royal Australasian College of Surgeons (https://www.surgeons.org)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	12
Royal College of Surgeons of England (https://www.rcseng.ac.uk)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	7
Royal College of Surgeons of Ireland (https://www.rcsi.com/dublin/)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	8
Spanish Society of Surgery (Asociacion Espanola de Cirujanos) (https://www.aecirujanos.es)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	1
Swedish Surgical Society (http://www.svenskkirurgi.se)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0

The Association of Surgeons of South Africa (http://www.surgeon.co.za)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
The Pan African Association of Surgeons (http://www.africansurgeons.com)	[contains all words] elective surgery covid [contains all words] non-urgent surgery covid	0
Total		111