CANCER GUIDELINE

CANCER EXPERT PANEL MEMBERS

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Canadian Association of Radiologists
L'Association canadienne des radiologistes

Contents

ABBREVIATIONS

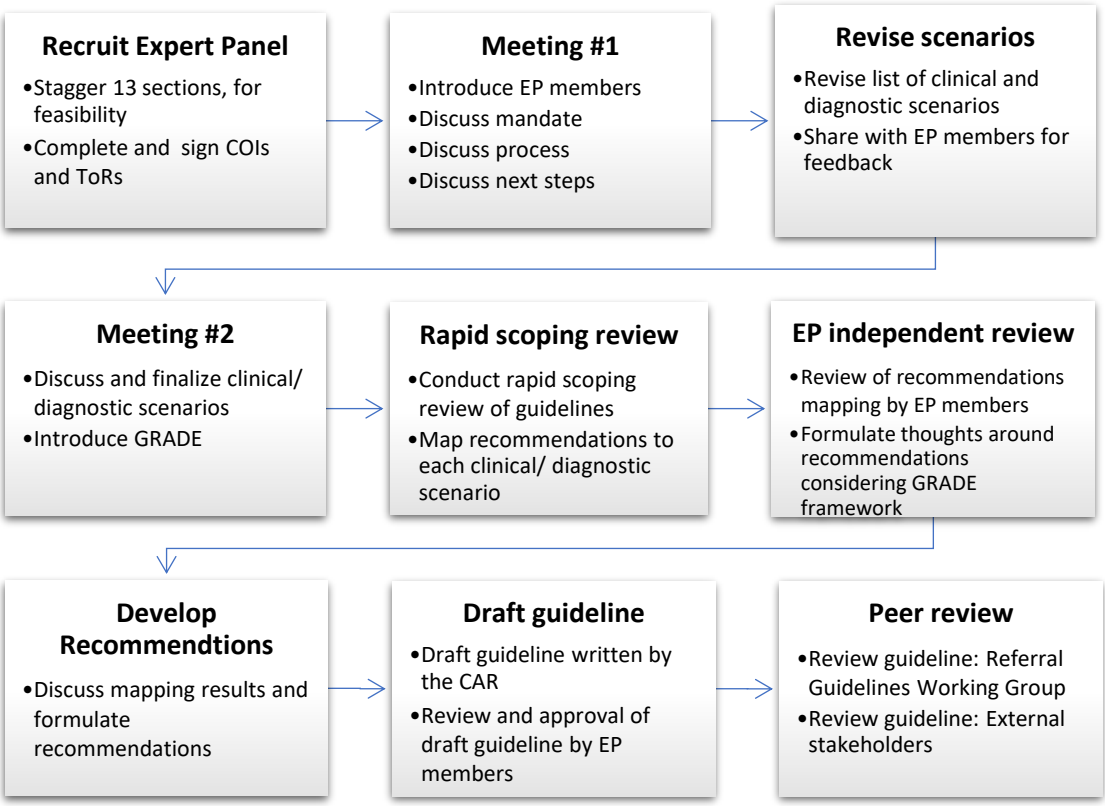
ACR	American College of Radiology
AGREE-II	Appraisal of Guidelines for Research & Evaluation Instrument
AI	Artificial Intelligence
CAR	Canadian Association of Radiologists
CT	Computed Tomography
EP	Expert Panel
EtD	Evidence to Decision
GRADE	Grading of Recommendations Assessment, Development and Evaluation
MRI	Magnetic Resonance Imaging
mSv	millisievert
NICE	National Institute for Health and Care Excellence
US	Ultrasound

INTRODUCTION

The diagnostic imaging referral recommendations from the Canadian Association of Radiologists (CAR) were published in 2012 (https://car.ca/patient-care/referral-guidelines/) and are considered out of date. These recommendations were made up of 13 sections, of which one was Cancer. In 2020, the CAR, funded by the Canadian Medical Association (CMA), developed a plan to update the CAR diagnostic imaging referral recommendations. The project mandate is to develop a comprehensive set of evidenced-based diagnostic imaging referral guidelines suited for integration into Clinical Decision Support (CDS) systems.

An Expert Panel (EP) made up of physicians from the disciplines of radiology, medical oncology, surgical oncology, radiation oncology, family medicine/general practitioner oncology, a patient advisor, and an evidence review/ guideline methodologist from across Canada met over a series of three meetings between March and October 2024.

The 68 clinical/diagnostic scenarios in the 2012 CAR recommendations were used as the starting point for discussions. After a review and update of these scenarios, a list of 29 clinical/diagnostic scenarios and sub-scenarios was created (**focus on diagnosis but omitting staging, follow-up, and surveillance**). As 12 other CAR Diagnostic Imaging Referral guidelines have already been completed, 16 scenarios were already covered. The remaining 13 scenarios informed the search strategy and rapid scoping review. During recommendation development, one additional scenario was mapped to an existing CAR guideline. The general process of the guideline development is presented in **Figure 1**.



Abbreviations: CAR = Canadian Association of Radiologists; **COI** = Conflict of Interest; **EP** = Expert Panel; **GRADE** = Grading of Recommendations Assessment, Development and Evaluation; **ToR** = Terms of Reference

Figure 1 - Guideline Development Process

WHO ARE THESE RECOMMENDATIONS FOR?

These recommendations are primarily for referring clinicians (e.g., physicians, nurse practitioners); however, they may also be used by radiologists, patients, and/or patient representatives.

The primary objective of the recommendations is to promote the most appropriate diagnostic imaging procedure(s), so that patients receive these procedure(s) at the right time, resulting in better health outcomes.

Scope

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. We did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring.

DISCLAIMER

These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability.

We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient.

METHODS OF THE RAPID SCOPING REVIEW

The conduct of the systematic rapid scoping review was guided by empirical review guidance: the Joanna Briggs Institute scoping review guidance [1], the Cochrane Handbook [2], and the rapid review interim guidance from the Cochrane Rapid Review Methods Group [3].

Inclusion Criteria

Publications were included if they met the following criteria:

Guidelines: Providing diagnostic imaging recommendations for one or more of the clinical/diagnostic scenarios identified by the Cancer Expert Panel.

Study design: Guidelines that were produced using three criteria in the AGREE-II assessment tool [4]:

(1) Systematic methods were used to search for evidence: Searched and named at least 1 electronic database using an electronic search strategy (e.g., Medline, Embase, PubMed, CENTRAL);

(2) The criteria for selecting the evidence are clearly described: Described a formal process for study selection; AND reported the inclusion and exclusion criteria; OR if it is based on a systematic review even if it does not provide explicit methods; and

(3) The strengths and limitations of the body of evidence are clearly described: Performed critical appraisal on the included studies (e.g., risk of bias, describe study limitations); OR if it is based on a systematic review and GRADE is performed.

Interventions: Any diagnostic imaging modality (e.g., radiograph [XR], magnetic resonance imaging [MRI], computed tomography [CT], ultrasound [US], were included.

Date of publication: To identify the most recent guidelines, which would contain the most recently published primary studies, and for feasibility, we included guidelines that were published or updated in 2019 onward.

Language of publication: English, for feasibility.

Search

A systematic search strategy was developed by an experienced information specialist (**Appendix 1**) using the list of clinical/diagnostic scenarios identified by the Cancer Expert Panel members. The search was run in Medline and Embase on May 25, 2024. The search was limited to publications from 2019 onward to capture the most recent guidelines, and for feasibility. There was no language restriction in the search. Supplemental searching included searching the following national radiology and/or guideline groups: the American College of Radiology (ACR), the National Institute for Health and Care Excellence (NICE).

Title/abstract screening

Using a standardized form in DistillerSR, an online systematic review software [5], one reviewer screened the records in prioritized order, using the artificial intelligence (AI) re-ranking tool in DistillerSR. A stop-screening approach was implemented once 95% of the predicted included studies were identified [6,7]. The AI reviewer tool in DistillerSR excluded the remaining records. The AI audit tool was run to identify any records that were excluded that had high score for inclusion (i.e., a prediction score of 0.85 and above). These records were rescreened to ensure that they should have been excluded. A second reviewer verified a random sample of 10% of the included records and 20% of the excluded records, without knowledge of the inclusion or exclusion decision by the first reviewer. Any disagreements were resolved through discussion. The AI audit tool was rerun, and any records with a prediction score of ≥0.85 were rescreened.

Full text screening

Using a standardized form in DistillerSR, one reviewer evaluated the full texts of the guidelines against the eligibility criteria described above in the Inclusion Criteria.

Mapping

Recommendations were extracted from all included guidelines by one reviewer and presented in tabular form for each clinical/ diagnostic scenario. A synopsis (i.e., a condensed version of the evidence table) for each clinical/ diagnostic scenario was created based on the information in the evidence tables. These synopses highlighted the main recommendations across guidelines, with a focus on guidelines that used GRADE, and highlighted any discordant recommendations. These synopses were produced by the guideline methodologist and distributed to the EP members to help guide discussion when formulating the recommendations.

Critical appraisal

Each guideline was assessed for the level of quality using the AGREE-II instrument [4]. This was performed by one reviewer with a quality control check on a random sample of 10% of the guidelines.

FORMULATING RECOMMENDATIONS

A one-day virtual meeting was held on October 19, 2024. The Expert Panel members discussed each of the clinical scenarios using the information in the synopses as a guide. When required, the full evidence tables (**Appendix 2**) were consulted for additional information.

NOTE: Details have been removed from Appendix 2 to comply with copyright protection. For additional information on these recommendations, please access the full publications.

The focus of these recommendations was to provide the recommendation for the initial imaging modality, and in some cases the next imaging modality or an alternative to the initial modality, in situations where the initial modality is negative, indeterminate, may not be available, or if additional imaging is required.

Specifying contrast protocols

Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

Grading of Recommendations Assessment, Development and Evaluation

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) for Guidelines framework [8,9] was used as a guide to determine the strength (i.e., strong, conditional) and direction (i.e., for, against) of the recommendation. As the GRADE methodology requires an Evidence to Decision (EtD) framework for each recommendation, this would not have been feasible as:

(i) We used recommendations from existing guidelines as our evidence base, thereby not allowing for full assessment of each outcome within the primary studies, including the five GRADE domains to evaluate the certainty of the evidence: risk of bias, indirectness, imprecision, inconsistency, and publication bias [10]. Therefore, this information was inferred by the level and strength of the evidence provided in the included guidelines.

(ii) We covered 12 new clinical/diagnostic scenarios in the Cancer section, which could have included several diagnostic imaging modality comparisons. This would have resulted in a minimum of 12 EtD frameworks, but realistically many more, as we would have had to create an EtD for each comparison (e.g., MRI vs CT, US vs CT) within each clinical/diagnostic scenario.

Therefore, in addition to the diagnostic imaging recommendations presented by each included guideline, and the clinical expertise of the EP members, additional criteria were considered specific to the Canadian healthcare context:

- Certainty of the evidence (as presented in the included guidelines)
- Consideration of benefits and harms (e.g., ionizing radiation exposure)
- Values and preferences
- Equity, accessibility, and feasibility
- Resource use and costs

The strength and direction of the recommendations are represented by arrow directions and colours. Using GRADE as a guide [8], these can be interpreted as:

- **Strong recommendation ("recommend"), for (↑↑)**: All or almost all informed people would want/recommend this intervention and only a small proportion would not. If this intervention is not offered, the patient or patient representative should request a discussion.
- **Conditional recommendation ("suggest"), for (↑)**: Most informed people would choose/recommend this intervention, but a substantial number would not. This may be conditional upon patient values and preferences, the resources available or the setting in which the intervention will be implemented.
- **Conditional recommendation ("suggest"), against (↓)**: Most informed people would not choose/recommend this intervention, but a substantial number would. This may be conditional upon patient values and preferences, the resources available or the setting in which the intervention will be implemented.

- **Strong recommendation ("recommend"), against (↓↓)**: All or almost all informed people would not want/recommend this intervention, but a small proportion would.

When there were no guidelines to support recommendations, the EP formulated recommendations based on their clinical expertise while considering values and preferences, resources, cost, equity, and accessibility. These recommendations are denoted with (EP consensus).

The recommendations for each clinical/ diagnostic scenario are presented below, with reference to the guidelines that were included for that scenario. Recommendations are also summarized in tabular form in **Appendix 3**.

INCLUDED GUIDELINES

A total of 21 unique records were identified through the electronic database. After reviewing 1589 records, the AI reviewer excluded the remaining records (n=3715), as 95% of the predicted included records had been identified and the likelihood for inclusion of the remaining records was low (highest remaining prediction score of 8.5%). A second reviewer screened a set of randomly selected records (n=1226) for verification (~10% of included and 20% of excluded records). Among these, there were three conflicts. These conflicts were resolved through discussion. An additional two records were added from the supplemental searching. The full text for 3 records was not retrievable and 20 records were non-English publications (**Appendix 4**). Among the remaining full texts that were screened for eligibility, 43 were not guidelines providing recommendations for cancer imaging, 98 did not use systematic methods or sufficiently describe the methods used in the formulation of the guideline, 8 were topics not covered by the cancer guideline, and 11 were excluded for 'other' reasons. A list of excluded records with reasons is available upon request. Recommendations from 21 guidelines were included (**Figure 2 - PRISMA flow diagram**).

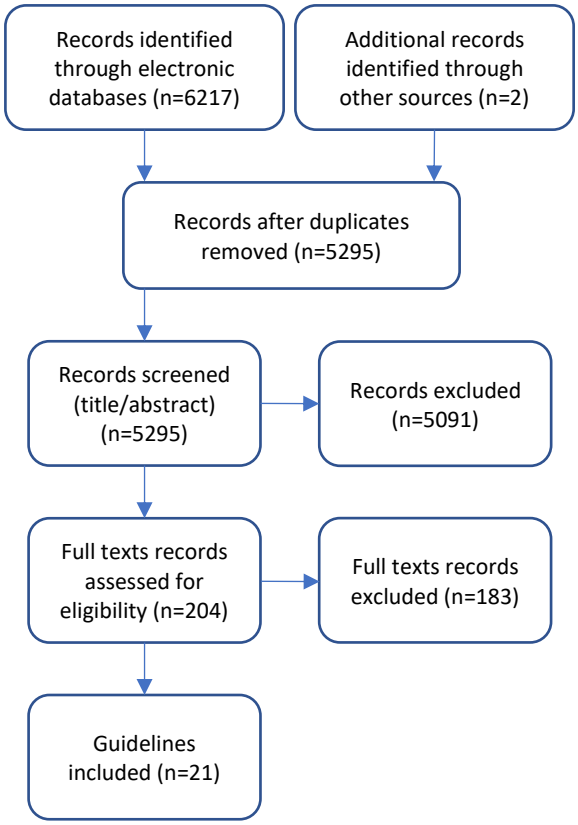


Figure 2 - PRISMA flow diagram

The number of guidelines included per clinical/diagnostic scenario ranged from 0 to 7 (**Appendix 2**).

Most guidelines were rated as moderate or high quality, using the AGREE-II tool (**Appendix 5**). Often, reasons for rating an item down were due to a lack of reporting.

LIMITATIONS OF THE RAPID SCOPING REVIEW

As the unit of inclusion for the rapid scoping review was guidelines, the recommendations were extracted as presented in the guidelines. We also extracted the level/certainty of the evidence based on the criteria presented in the completed guidelines. There were several tools/methods used to assess the level/certainty

of the evidence, for example GRADE [10], the Oxford Centre for Evidence-based Medicine 2009 and 2011 [11,12], Level of Appropriateness (American College of Radiologists), consensus, or an adaptation/ modification of one or more methods. For feasibility, primary studies were not reviewed, and the level/certainty of the evidence was taken at face value from the guideline.

IONIZING RADIATION EXPOSURE

We have elected to not include any effective dose values in millisieverts (mSv), related metrics, or qualitative descriptors of radiation risk (e.g., symbol, risk level, approximate equivalent background radiation, lifetime additional risk of cancer induction/exam) for several reasons:

1) The Expert Panel members have considered the risks of ionizing radiation (i.e., GRADE for Guidelines benefits and harms) when formulating the recommendations.

2) The levels of ionizing radiation in modern medical imaging equipment should not unduly influence patient decision-making. The anticipated benefits of imaging to the patient, if a test is clinically indicated are likely to outweigh any potential small risks [13].

3) Per the following points, effective dose values and related metrics such as equivalent background radiation have very large uncertainties, and their utility is thus limited:

    - There is uncertainty in the relative values of the effective dose for a reference patient with variation in the standard error [14];
    - Effective doses are measured using reference phantoms with population, age and sex-averaged tissue weighting factors [14], therefore these should not be considered as the doses received by specific individuals;
    - The publications providing data used to estimate the effective dose per scan (e.g., International Commission on Radiological Protection (ICRP) 1990 [15], 2007 [16]) are occasionally updated and may impact the effective dose values;
    - There is variation in the average dose from natural background radiation by geographic location. For example, in Canada, the average is 1.8 mSv/year, which ranges from 1.3 mSv/year in Vancouver to 4.1 mSv/year in Winnipeg [17]; and
    - There are variables around the equipment (e.g., age) and facility (e.g., protocol) that may impact the actual amount of ionizing radiation exposure used for any particular exam.

EXTERNAL REVIEW

This guideline and its recommendations have been externally reviewed by members of the CAR Diagnostic Imaging Referral Guidelines Working Group (**Box 1**) and Alanna Coleman (Nurse Practitioners Association of Canada).

FUTURE RESEARCH IN THIS AREA

This guideline will be updated upon the emergence of new evidence that may change the validity of the recommendations.

We plan on developing Patient Friendly Summaries for some of the clinical/diagnostic scenarios covered in this guideline. The selection of scenarios will be dependent on a prioritization exercise, as well as funding. These summaries will be made available on the CAR website (www.car.ca).

Box 1. CAR Diagnostic Imaging Referral Guideline Working Group Members
Ryan Margau (co-chair), Radiologist, North York General Hospital, ON
Paul Pageau (co-chair), Emergency medicine physician, The Ottawa Hospital, ON

Other members listed alphabetically:
Barb Avard, Patient Experience Partner, North York General Hospital, ON
Nicolas Dea, Spinal neurosurgeon, Vancouver General Hospital and University of British Columbia, Vancouver, BC
Cathy MacLean, Family physician, Saskatoon, SK
Charlotte Yong-Hing, Radiologist, BC Cancer, Vancouver, BC
Kaitlin Zaki-Metias, Radiologist, Western University, London, ON

Italicized name is a WG member who was also a member of the Cancer Expert Panel.

CANCER CLINICAL/DIAGNOSTIC SCENARIOS

Head and Neck

CA01. Suspected neck cancer
CA02. Suspected thyroid cancer
CA03. Suspected brain cancer

Cardiothoracic

CA04. Suspected lung cancer
CA05. Incidental lung cancer
CA06. Suspected intracardiac/pericardial cancer

Musculoskeletal

CA07. Suspected soft tissue mass or tumour
CA08. Suspected bone tumour
CA09. Suspected bone tumour – myeloma
CA10. Suspected spine tumour

Gastrointestinal system

CA11. Suspected esophageal/gastric cancer
CA12. Suspected pancreatic cancer
CA13. Suspected liver cancer
CA14. Incidental liver mass
CA15. Incidental colon mass or suspected colon cancer
CA16. Suspected anal cancer

Genitourinary

CA17. Suspected renal cancer
CA18. Suspected adrenal cancer
CA19. Suspected bladder cancer
CA20. Suspected testicular cancer
CA21. Suspected penile cancer
CA22. Suspected prostate cancer

Gynecological system

CA23. Suspected ovarian cancer
CA24. Suspected cervical cancer
CA25. Suspected endometrial/uterine cancer
CA26. Suspected vulvar cancer
CA27. Suspected vaginal cancer

Other cancers

CA28. Suspected hematologic malignancies
CA29. Suspected skin cancer

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RECOMMENDATIONS

Head and neck

CA01. Suspected neck cancer

For suspected neck cancer, see the CAR Head and Neck guideline [18], scenario:

- H04. Neck mass of unknown origin, including salivary gland mass

CA02. Suspected thyroid cancer

For suspected thyroid cancer, see the CAR Head and Neck guideline [18], scenario:

- H03A. Thyroid and parathyroid disease: Palpable nodule, including goiter

CA03. Suspected brain cancer

For suspected brain cancer, see the CAR Central Nervous System guideline [19], scenarios:

- CN04. Headache
- CN07. Cranial neuropathy, brain stem symptoms
- CN09A. Vestibular and cochlear symptoms, Hearing loss
- CN09B. Vestibular and cochlear symptoms, Vertigo
- CN12. Epilepsy and seizure
- CN14. Intracranial space-occupying lesions

Cardiothoracic

CA04. Suspected lung cancer

For suspected lung cancer, see the CAR Thoracic guideline [20], scenarios:

- TH13. Chronic cough
- TH16. Hemoptysis
- TH20. Suspected mediastinal lesion
- TH21. Suspected mediastinal lymphadenopathy
- TH22. Elevated diaphragm on chest radiograph

CA05. Incidental lung cancer

For incidental lung nodule, see the CAR Thoracic guideline [20], scenario:

- TH19. Incidental lung nodule

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CA06. Suspected intracardiac/pericardial cancer

For suspected intracardiac/ pericardial cancer, see the CAR Cardiovascular guideline [21], scenario:

- CV05B. Intracardiac/pericardial: Masses

Musculoskeletal

CA07. Suspected soft tissue mass or tumour

For suspected soft tissue mass or tumour, see CAR Musculoskeletal system guideline [22], scenario:

- M07. Soft tissue mass or tumour

CA08. Suspected bone tumour

For suspected soft tissue mass or tumour, see the CAR Musculoskeletal system guideline [22], scenario:

- M04. Bone tumour – Primary

For suspected bone tumour metastases, see the CAR Musculoskeletal system guideline [22], scenario:

- M05. Bone tumour – Metastases

CA09. Suspected bone tumour – myeloma

For suspected primary bone tumour – myeloma, see the CAR Musculoskeletal system guideline [22], scenario:

- M6. Bone tumour – Myeloma

CA10. Suspected spine tumour

For suspected tumour of the spine, see the CAR Spine guideline [23], see scenario:

- SP07. Suspected spinal tumour

Gastrointestinal system

CA11. Suspected esophageal/gastric cancer

For suspected esophageal/gastric cancer, see the 2024 CAR Gastrointestinal guideline [24], scenarios:

- GI01. Dysphagia/dyspepsia
- GI03A. Epigastric pain
- GI04. Chronic abdominal pain

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- GI07. Chronic GI bleeding

CA12. Suspected pancreatic cancer

Recommendations

1. In adults with suspected pancreatic cancer, we recommend **CT** as the initial imaging modality (↑↑).

Recommendations from 4 guidelines were used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25], the 2020 Italian Association of Medical Oncology guideline on Pancreatic cancer [26], the 2023 Japan Pancreas Society guideline on Pancreatic cancer [27], and the 2021 Korean National Cancer Center guideline on Pancreatic cancer [28] (**Appendix 2: Table CA12**).

CA13. Suspected liver cancer

Recommendations

1. In adults with suspected hepatocellular carcinoma, we recommend **liver protocol MRI or CT** as the initial imaging modality (↑↑).

MRI is preferred, as there is better contrast resolution. The decision for CT or MRI may be based on availability and expertise.

Recommendations from 7 guidelines were used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25], the 2023 American Association for the Study of Liver Diseases guideline on Hepatocellular carcinoma [29], the 2021 American College of Radiology guideline on Liver lesion [30], the 2020 Argentinian clinical practice guideline on Hepatocellular carcinoma [31], the 2022 Korean Liver Cancer Association- National Cancer Centre guideline on Hepatocellular carcinoma [32], the 2022 Liver Cancer Study Group of Japan guideline on Intrahepatic cholangiocarcinoma [33], and the 2021 Philippine guideline on Hepatocellular carcinoma [34] (**Appendix 2: Table CA13**).

CA14. Incidental liver mass

Recommendations

1. In adults with suspicious liver mass on US, non-contrast/single-phase CT or non-contrast MRI, we recommend **liver protocol MRI or CT** as the next imaging modality (↑↑).

Recommendations from 1 guideline were used during the discussion and formulation of these recommendations: the 2021 American College of Radiology guideline on Liver lesion [30] (**Appendix 2: Table CA14**).

CA15. Incidental colon mass or suspected colon cancer

Recommendations

1. In adults with incidental colon mass or suspected colon cancer, where colonoscopy is not feasible/possible, where colonoscopy was incomplete, or if the patient declines colonoscopy, we recommend **CT colonography** as the initial imaging modality (EP consensus).

No guidelines were identified.

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CA16. Suspected anal cancer

Recommendations

Diagnosis of anal cancer should be based on clinical examination/direct visualization.

Recommendations from 2 guideline was used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25] and the 2019 German Guidelines on Colorectal cancer [35] (**Appendix 2: Table CA16**).

Genitourinary

CA17. Suspected renal cancer

For suspected renal cancer, see the CAR Genitourinary guideline [36], scenario:

- GU06. Renal lesion

CA18. Suspected adrenal cancer

For suspected adrenal cancer, see the CAR Genitourinary guideline [36], scenario:

- GU10. Adrenal mass

CA19. Suspected bladder cancer

For suspected bladder cancer, see the CAR Genitourinary guideline [36], scenarios:

- GU01A. Hematuria: Gross hematuria
- GU01B. Hematuria: Microhematuria
- GU11. Incontinence, urgency, and frequency

CA20. Suspected testicular cancer

For suspected testicular cancer, see the CAR Genitourinary guideline [36], scenario:

- GU09. Scrotal mass or pain

CA21. Suspected penile cancer

Recommendations

Diagnosis of penile cancer should be based on clinical examination/direct visualization.

Recommendations from 1 guideline was used during the discussion and formulation of these recommendations: the 2023 EAU/ASCO guideline on Penile cancer (primary tumour) [37] (**Appendix 2: Table CA21**).

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CA22. Suspected prostate cancer

For suspected prostate cancer, see the CAR Genitourinary guideline [36], scenario:

- GU13. Elevated PSA

PSA: prostate-specific antigen

Gynecological system

CA23. Suspected ovarian cancer

Recommendations

For suspected ovarian cancer, see the CAR Obstetrics and Gynecology guideline [38], scenario:

- OG07. Evaluation of Adnexal mass

Note: This scenario was included in the search, however, when formulating the recommendations, they aligned with the recommendations the CAR Obstetrics and Gynecology, scenario OG07. Therefore, we direct the reader to guideline.

Recommendations from 5 guideline were used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25], the 2021 American Society of Clinical Oncology guideline on Ovarian cancer [39], the 2021 ESGO/ISUOG/IOTA/ESGE guideline on Ovarian tumours [40], the 2022 Italian Society for Ultrasound in Obstetrics and Gynecology (SIEOG) guideline on Ultrasound in obstetrics and gynecology [41], and the 2019 Joint French clinical practice guideline on Ovarian mass [42] (**Appendix 2: Table CA23**).

CA24. Suspected cervical cancer

Recommendations

Diagnosis of cervical cancer should be made clinically (e.g., Pap smear, biopsy).

Pap: Papanicolaou

Recommendations from 1 guideline was used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25] (**Appendix 2: Table CA24**).

CA25. Suspected endometrial/uterine cancer

Recommendations

1. In adults with suspected endometrial/uterine cancer, we recommend **combined transabdominal and transvaginal US with Doppler** as the initial imaging modalities (↑↑).

Recommendations from 4 guideline was used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25]**,** the 2022 British Gynaecological Cancer Society guideline on Uterine cancer [43]**,** the 2023 German guideline on Endometrial cancer [44]**,** and the 2022 Italian Society for Ultrasound in Obstetrics and Gynecology (SIEOG) guideline on Ultrasound in obstetrics and gynecology [41] (**Appendix 2: Table CA25**).

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. Whether or not imaging is indicated is outside the scope of this guideline. **The recommendations in this section are related to diagnosis and do not cover staging.** Additionally, we did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring. These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability. We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient. Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

CA26. Suspected vulvar cancer

Recommendations

Diagnosis of vulvar cancer should be based on clinical examination/direct visualization.

Recommendations from 1 guideline was used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25] (**Appendix 2: Table CA26**).

CA27. Suspected vaginal cancer

Recommendations

Diagnosis of vaginal cancer should be based on clinical examination/direct visualization.

Recommendations from 2 guidelines were used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25] and the 2023 ESTRO/ESGO/SIOPe guideline on Vaginal cancer [45] (**Appendix 2: Table CA27**).

Other cancers

CA28. Suspected hematologic malignancies

Recommendations

Suspected lymphoma

1. In adults with suspected lymphoma, we recommend **CT neck, chest, abdomen, pelvis** as the initial imaging modality (↑↑).

Suspected myeloma

For suspected myeloma, see the CAR Musculoskeletal system guideline [21], scenario:

- M6. Bone tumour – Myeloma

Other hematologic malignancies

Other hematologic malignancies may be diagnosed based on laboratory investigations.

Recommendations from 3 guidelines were used during the discussion and formulation of these recommendations: the 2012 CAR guideline Cancer section [25], the 2024 British Society for Haematology guideline on Smouldering myeloma [46], and the 2021 German clinical practice guideline on Follicular lymphoma [47] (**Appendix 2: Table CA28**).

CA29. Suspected skin cancer

Recommendations

Diagnosis of skin cancer should be based on clinical examination/direct visualization.

No guidelines were identified.

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APPENDIX 1. SEARCH STRATEGIES

Cancer – Imaging – Guidelines
Final Strategies
2024 May 25

MEDLINE

Database: Ovid MEDLINE(R) ALL <1946 to May 24, 2024>
Search Strategy:

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1 exp Pancreatic Neoplasms/ (94600)
2 ((pancrea* or island cell? or islet cell? or "islet of langerhans*") adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (113232)
3 (Insuloma* or nesidioblastoma* or nesidio-blastoma* or (pancrea* adj3 IPMN) or pancreatoblastoma* or pancreato-blastoma* or solid pseudopapillary tumo?r*).tw,kw,kf. (2227)
4 or/1-3 [PANCREATIC CANCER] (135560)
5 exp Liver Neoplasms/ (200287)
6 ((liver or livers or hepatic or hepatocellular* or hepato-cellular* or hepatocyte*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (223931)
7 hepatoma?.tw,kw,kf. (30793)
8 or/5-7 [LIVER CANCER] (302049)
9 exp Colorectal Neoplasms/ (246062)
10 ((anal or anus or anorectal* or ano-rectal* or circumanal* or circum-anal* or perianal* or peri-anal* or perirectal* or peri-rectal* or bowel? or colon or colons or colonic or colorect* or rectal or rectocolonic* or recto-colonic* or rectum or sigmoid*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (312406)
11 (Lynch adj2 (cancer? or syndrome?)).tw,kw,kf. (4633)
12 or/9-11 [BOWEL/COLORECTAL CANCER] (359323)
13 Penile Neoplasms/ (6044)
14 ((penile or penis or penises) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (6247)
15 or/13-14 [PENILE CANCER] (8137)
16 exp Ovarian Neoplasms/ (98171)
17 ((ovary or ovaries or ovarian or theca cell?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (118282)
18 (androblastoma* or andro-blastoma* or arrhenoblastoma* or arrheno-blastoma* or luteinoma* or luteoma* or thecoma*).tw,kw,kf. (1167)
19 ((Brenner* or granulosa cell? or sertoli-leydig cell?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma*

or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (4094)
20 or/16-19 [OVARIAN CANCER] (139979)
21 Uterine Cervical Neoplasms/ (87692)
22 ((cervical or cervix) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (112150)
23 or/21-22 [CERVICAL CANCER] (131221)
24 exp Endometrial Neoplasms/ (26961)
25 (endometr* adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (47039)
26 or/24-25 [ENDOMETRIAL CANCER] (50590)
27 Vulvar Neoplasms/ (8989)
28 ((vulva or vulvar) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (8005)
29 or/27-28 [VULVAR CANCER] (11522)
30 Vaginal Neoplasms/ (5523)
31 ((vagina* or vulvovagina* or vulvo-vagina*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (7728)
32 or/30-31 [VAGINAL CANCER] (10167)
33 exp Uterine Neoplasms/ (151551)
34 ((uterine or uterus or uteri or womb?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (40720)
35 or/33-34 [UTERINE CANCER] (163210)
36 Hematologic Neoplasms/ (17580)
37 ((blood or h?ematolog* or h?ematopoietic*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (116066)
38 ((polycyth?em* or poly-cyth?em*) adj2 vera).tw,kw,kf. (7669)
39 exp Leukemia/ (258493)
40 (leuk?emi* or leucocyth?emi*).tw,kw,kf. (311070)
41 exp Lymphoma/ (190766)
42 (lymphoma* or germinoblastoma* or germino-blastoma* or germinoblastic sarcoma* or germino-blastic sarcoma* or hodgkin? or "hodgkin's" or lymphatic sarcoma* or lymphogranuloma* or lympho-granuloma* or lymphosarcoma* or lympho-sarcoma* or nonhodgkin* or non-hodgkin* or reticulolymphosarcoma* or reticulo-

lymphosarcoma* or reticulo-lympho-sarcoma* or reticulolympho-sarcoma* or reticulosarcoma* or reticulo-sarcoma*).tw,kw,kf. (241948)
43 or/36-42 [HEMATOLOGICAL CANCER] (690612)
44 exp Skin Neoplasms/ (203956)
45 (acanthoma* or mastocytoma* or melanoma*).tw,kw,kf. (148028)
46 ((basal cell? or derm* or epiderm* or sebaceous gland or skin or squamous) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (240327)
47 or/44-46 [SKIN CANCER] (435673)
48 4 or 8 or 12 or 15 or 20 or 23 or 26 or 29 or 32 or 35 or 43 or 47 [ALL CANCERS OF INTEREST] (2076303)
49 Diagnostic Imaging/ (46991)
50 dg.fs. [diagnostic imaging] (1497809)
51 (diagnos* adj3 (image? or imaging)).tw,kw,kf. (62266)
52 (x-ray* or xray*).tw,kw,kf. (455039)
53 Image Interpretation, Computer-Assisted/ (48077)
54 exp Imaging, Three-Dimensional/ (93058)
55 ((3D or 3-D or 3-dimension* or three dimension*) adj (image? or imaging)).tw,kw,kf. (22919)
56 exp Ultrasonography/ (496255)
57 (ultrasound* or ultrasonograph* or ultra-sonograph* or ultrasonic* or ultra-sonic*).tw,kw,kf. (483666)
58 (echograph* or echo-graph* or echotomograph* or echo-tomograph* or echosonograph* or echo sonograph*).tw,kw,kf. (11356)
59 exp Radiography/ (1219475)
60 (radiograph* or radiographic imag* or roentgenograph* or roentgeno-graph*).tw,kw,kf. (292900)
61 (fluoroscop* or fluoro-scop*).tw,kw,kf. (35613)
62 exp Radionuclide Imaging/ (240830)
63 ((radionuclide* adj2 imag*) or (radio-nuclide* adj2 imag*) or (radionuclide* adj2 scan*) or (radio-nuclide* adj2 scan*) or (radioisotope* adj2 imag*) or (radio-isotope* adj2 imag*) or (radioisotope* adj2 scan*) or (radio-isotope* adj2 scan*) or scintigra* or scinti-gra* or scintiphotograph* or scinti-photograph* or scintiscan* or scinti-scan* or scanograph* or lymphoscintigra* or lympho-scintigra*).tw,kw,kf. (64913)
64 exp Tomography/ (1104870)
65 (tomograph* or tomo-graph*).tw,kw,kf. (557288)
66 (CAT scan* or CT scan* or PET scan* or PET imag* or PT scan* or PT imag*).tw,kw,kf. (153885)
67 (SPECTCT or SPECT CT or "SPECT/CT").tw,kw,kf. (6027)
68 (magnetic resonance imag* or MRI or MRIs or fMRI or fMRIs or NMR imag* or chemical shift imag* or magneti#ation transfer contrast imag* or spin echo imag* or zeugmatograph* or zeugmato-graph*).tw,kw,kf. (544120)
69 (cineradiograph* or cine-radiograph* or cinefluorograph* or cine-fluorograph* or radiocinematograph* or radio-cinematograph*).tw,kw,kf. (1833)
70 Nuclear Medicine/ (6898)
71 ((nuclear or atomic) adj1 medicine?).tw,kw,kf. (16827)
72 (nuclear adj1 radiolog*).tw,kw,kf. (589)
73 (sialogra* or salivogra* or sialoscintigra* or sialo-scintigra*).tw,kw,kf. (1408)
74 (enteroclys* or enterogra*).tw,kw,kf. (2362)
75 (esophagra* or oesophagra* or esophagogra* or oesophagogra*).tw,kw,kf. (2679)
76 ((CT or virtual) adj colonoscop*).tw,kw,kf. (739)
77 (contrast adj (study or studies or medium)).tw,kw,kf. (18544)
78 (cholangiopancreatogra* or cholangio-pancreatogra* or ERCP or MRCP).tw,kw,kf. (20992)
79 cholecystogra*.tw,kw,kf. (2646)
80 (angiograph* or angio-graph* or angiogram* or angio-gram*).tw,kw,kf. (241414)
81 (perfusion adj3 (image? or imaging)).tw,kw,kf. (17225)
82 or/49-81 [IMAGING] (3568535)
83 48 and 82 [ALL CANCERS OF INTEREST - IMAGING] (248962)
84 exp Animals/ not Humans/ (5224753)
85 83 not 84 [ANIMAL-ONLY RECORDS REMOVED] (240908)
86 (case reports or address or autobiography or bibliography or biography or comment or dictionary or directory or editorial or "expression of concern" or festschrift or historical article or interactive tutorial or lecture or legal case or legislation or news or newspaper article or patient education handout or personal narrative or portrait or video-audio media or webcast or (letter not (letter and randomized controlled trial))).pt. (5075596)
87 85 not 86 [IRRELEVANT PUBLICATION TYPES REMOVED] (152705)
88 exp Guidelines as Topic/ (173680)
89 exp Clinical Protocols/ (193975)
90 Guideline.pt. (16382)
91 Practice Guideline.pt. (31451)
92 standards.fs. (769691)
93 Consensus Development Conference.pt. (12410)
94 Consensus Development Conference, NIH.pt. (801)
95 (consensus or guideline* or guidance? or standards or recommendation*).ti,kw,kf. (250775)
96 (expert consensus or consensus statement* or consensus conference* or clinical guideline? or practice guideline? or treatment guideline? or practice parameter* or position statement* or policy statement* or CPG or CPGs).tw,kw,kf. (137395)

97 or/88-96 [GUIDELINE FILTER] (1315498)
98 87 and 97 [ALL CANCERS OF INTEREST - IMAGING - GUIDELINES] (9101)
99 limit 98 to yr="2019-current" [DATE LIMIT APPLIED] (2320)

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Embase

Database: Embase <1974 to 2024 May 24>
Search Strategy:
---
1 exp pancreas tumor/ (200167)
2 ((pancrea* or island cell? or islet cell? or "islet of langerhans*") adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (177103)
3 (Insuloma* or nesidioblastoma* or nesidio-blastoma* or (pancrea* adj3 IPMN) or pancreatoblastoma* or pancreato-blastoma* or solid pseudopapillary tumo?r*).tw,kw,kf. (3797)
4 or/1-3 [PANCREATIC CANCER] (237944)
5 exp liver tumor/ (370739)
6 ((liver or livers or hepatic or hepatocellular* or hepato-cellular* or hepatocyte*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (316046)
7 hepatoma?.tw,kw,kf. (35095)
8 or/5-7 [LIVER CANCER] (463254)
9 exp intestine tumor/ (536186)
10 ((anal or anus or anorectal* or ano-rectal* or circumanal* or circum-anal* or perianal* or peri-anal* or perirectal* or peri-rectal* or bowel? or colon or colons or colonic or colorect* or rectal or rectocolonic* or recto-colonic* or rectum or sigmoid*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (453379)
11 (Lynch adj2 (cancer? or syndrome?)).tw,kw,kf. (8455)
12 or/9-11 [BOWEL/COLORECTAL CANCER] (615335)
13 exp penis tumor/ (11674)
14 ((penile or penis or penises) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (8515)
15 or/13-14 [PENILE CANCER] (13803)
16 exp ovary tumor/ (190047)
17 ((ovary or ovaries or ovarian or theca cell?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (167789)
18 (androblastoma* or andro-blastoma* or arrhenoblastoma* or arrheno-blastoma* or luteinoma* or luteoma* or thecoma*).tw,kw,kf. (956)
19 ((Brenner* or granulosa cell? or sertoli-leydig cell?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-

acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (4887)
20 or/16-19 [OVARIAN CANCER] (222851)
21 exp uterine cervix tumor/ (143185)
22 ((cervical or cervix) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (142396)
23 or/21-22 [CERVICAL CANCER] (178591)
24 exp endometrium tumor/ (87440)
25 (endometr* adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (70818)
26 or/24-25 [ENDOMETRIAL CANCER] (102757)
27 exp vulva tumor/ (14726)
28 ((vulva or vulvar) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (11001)
29 or/27-28 [VULVAR CANCER] (18042)
30 exp vagina tumor/ (15011)
31 ((vagina* or vulvovagina* or vulvo-vagina*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (9764)
32 or/30-31 [VAGINAL CANCER] (20480)
33 exp uterus tumor/ (256282)
34 ((uterine or uterus or uteri or womb?) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (44077)
35 or/33-34 [UTERINE CANCER] (265459)
36 exp hematopoietic system tumor/ (785585)
37 exp hematologic malignancy/ (772732)
38 ((blood or h?ematolog* or h?ematopoietic*) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (192357)
39 ((polycyth?em* or poly-cyth?em*) adj2 vera).tw,kw,kf. (10808)
40 exp leukemia/ (382831)
41 (leuk?emi* or leucocyth?emi*).tw,kw,kf. (428648)
42 exp lymphoma/ (340500)
43 (lymphoma* or germinoblastoma* or germino-blastoma* or germinoblastic sarcoma* or germino-blastic sarcoma* or hodgkin? or "hodgkin's" or lymphatic

sarcoma* or lymphogranuloma* or lympho-granuloma* or lymphosarcoma* or lympho-sarcoma* or nonhodgkin* or non-hodgkin* or reticulolymphosarcoma* or reticulo-lymphosarcoma* or reticulo-lympho-sarcoma* or reticulolympho-sarcoma* or reticulosarcoma* or reticulo-sarcoma*).tw,kw,kf. (342668)
44 or/36-43 [HEMATOLOGICAL CANCER] (1089988)
45 exp skin tumor/ (250242)
46 (acanthoma* or mastocytoma* or melanoma*).tw,kw,kf. (207631)
47 ((basal cell? or derm* or epiderm* or sebaceous gland or skin or squamous) adj4 (mass or masses or neoplas* or cancer* or tumo?r* or carcinogenes* or carcinoma* or cystadenocarcinoma* or cystadeno-carcinoma* or malignan* or oncolog* or adenocancer* or adeno-cancer* or adenoma* or adenocarcinoma* or adeno-carcinoma* or angiosarcoma* or angio-sarcoma* or blastoma* or carcinosarcoma* or carcino-sarcoma* or adenoacanthoma* or adeno-acanthoma* or epithelioma* or hemangioendothelioma* or hemangio-endothelioma* or leiomyosarcoma* or leiomyo-sarcoma* or liposarcoma* or liposarcoma* or melanoma* or mesenchymoma* or sarcoma* or thymoma* or granuloma* or choriocarcinoma* or chorio-carcinoma* or cancerogenes* or carcinoid*)).tw,kw,kf. (324078)
48 or/45-47 [SKIN CANCER] (635387)
49 4 or 8 or 12 or 15 or 20 or 23 or 26 or 29 or 32 or 35 or 44 or 48 [ALL CANCERS OF INTEREST] (3087163)
50 diagnostic imaging/ (258325)
51 (diagnos* adj3 (image? or imaging)).tw,kw,kf. (89335)
52 (x-ray* or xray*).tw,kw,kf. (517000)
53 computer assisted tomography/ (947857)
54 computer assisted diagnosis/ (42959)
55 exp three-dimensional imaging/ (134226)
56 ((3D or 3-D or 3-dimension* or three dimension*) adj (image? or imaging)).tw,kw,kf. (30108)
57 exp echography/ (1053279)
58 (ultrasound* or ultrasonograph* or ultra-sonograph* or ultrasonic* or ultra-sonic*).tw,kw,kf. (718104)
59 (echograph* or echo-graph* or echotomograph* or echo-tomograph* or echosonograph* or echo sonograph*).tw,kw,kf. (15093)
60 exp radiography/ (1370605)
61 (radiograph* or radiographic imag* or roentgenograph* or roentgeno-graph*).tw,kw,kf. (340343)
62 (fluoroscop* or fluoro-scop*).tw,kw,kf. (58560)
63 exp scintiscanning/ (199057)
64 ((radionuclide* adj2 imag*) or (radio-nuclide* adj2 imag*) or (radionuclide* adj2 scan*) or (radio-nuclide* adj2 scan*) or (radioisotope* adj2 imag*) or (radio-isotope* adj2 imag*) or (radioisotope* adj2 scan*) or (radio-isotope* adj2 scan*) or scintigra* or scinti-gra* or scintiphotograph* or scinti-photograph* or scintiscan* or scinti-scan* or scanograph* or lymphoscintigra* or lympho-scintigra*).tw,kw,kf. (89614)
65 exp tomography/ (2526390)
66 (tomograph* or tomo-graph*).tw,kw,kf. (722588)
67 (CAT scan* or CT scan* or PET scan* or PET imag* or PT scan* or PT imag*).tw,kw,kf. (282695)
68 (SPECTCT or SPECT CT or "SPECT/CT").tw,kw,kf. (14038)
69 (magnetic resonance imag* or MRI or MRIs or fMRI or fMRIs or NMR imag* or chemical shift imag* or magneti#ation transfer contrast imag* or spin echo imag* or zeugmatograph* or zeugmato-graph*).tw,kw,kf. (850618)
70 (cineradiograph* or cine-radiograph* or cinefluorograph* or cine-fluorograph* or radiocinematograph* or radio-cinematograph*).tw,kw,kf. (954)
71 nuclear medicine/ (37885)
72 ((nuclear or atomic) adj1 medicine?).tw,kw,kf. (33692)
73 (nuclear adj1 radiolog*).tw,kw,kf. (868)
74 (sialogra* or salivogra* or sialoscintigra* or sialo-scintigra*).tw,kw,kf. (1418)
75 (enteroclys* or enterogra*).tw,kw,kf. (4463)
76 (esophagra* or oesophagra* or esophagogra* or oesophagogra*).tw,kw,kf. (4799)
77 ((CT or virtual) adj colonoscop*).tw,kw,kf. (1238)
78 (contrast adj (study or studies or medium)).tw,kw,kf. (23489)
79 (cholangiopancreatogra* or cholangio-pancreatogra* or ERCP or MRCP).tw,kw,kf. (40695)
80 cholecystogra*.tw,kw,kf. (1274)
81 (angiograph* or angio-graph* or angiogram* or angio-gram*).tw,kw,kf. (349214)
82 (perfusion adj3 (image? or imaging)).tw,kw,kf. (28317)
83 or/50-82 [IMAGING] (5154190)
84 49 and 83 [CANCERS OF INTEREST - IMAGING] (508063)
85 (exp animal/ or exp animal model/ or exp animal experiment/ or nonhuman/ or exp vertebrate/) not (exp human/ or exp human experiment/) (7447059)
86 84 not 85 [ANIMAL-ONLY REMOVED] (491414)
87 (conference abstract or editorial or letter).pt. (7295874)
88 case report/ or exp case study/ or directory/ (3086481)
89 86 not (87 or 88) [IRRELEVANT PUBLICATION TYPES REMOVED] (211133)
90 exp practice guideline/ (749127)
91 (consensus or guideline* or guidance? or standards or recommendation*).ti,kw,kf. (330766)
92 (expert consensus or consensus statement* or consensus conference* or clinical guideline? or practice guideline? or treatment guideline? or practice parameter* or position statement* or policy statement* or CPG or CPGs).tw,kw,kf. (197511)
93 or/90-92 [GUIDELINE FILTER] (1040002)
94 89 and 93 [GUIDELINES] (10433)
95 limit 94 to yr="2019-current" [DATE LIMIT APPLIED] (3897)

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APPENDIX 2. EVIDENCE TABLES

Table CA12. Suspected pancreatic cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **ERCP**: endoscopic retrograde cholangiopancreatography; **MRI:** magnetic resonance imaging; **MRCP: m**agnetic resonance cholangiopancreatography; **PET: p**ositron emission tomography; **US:** ultrasound	
CAR 2012 [25] Specific to adenocarcinoma of the pancreas	**K29. PANCREAS: SUSPECTED DIAGNOSIS** - **US**: Indicated [B]: Clinical presentation suggesting cancer of the pancreas should lead without delay to ultrasound of the liver, bile duct, and pancreas. Ultrasound should be performed initially if patient presents with symptoms only without abnormal lab or physical exam findings. - **CT**: Indicated [B]: Abdominal scan with intravenous contrast utilizing Pancreatic biphasic protocol (Arterial and Portal venous phases) can be performed when symptoms are accompanied by abnormal lab or physical examination, or if an abnormality is noted on ultrasound. Pelvic CT scan can be performed in addition to Abdominal CT scan for more accurate staging if initial ultrasound is abnormal. - **MRI/MRCP**: Specialized investigation [B]: MRI with contrast can be performed to further clarify clinical questions remaining from CT and ultrasound. If contrast enhanced CT scan is contraindicated (ie severe allergic reaction), MRI with contrast can be performed when symptoms are accompanied by abnormal lab or physical examination, or if an abnormality is noted on ultrasound. - **ERCP/ERCP**: Specialized investigation [C]: MRCP can be performed for clarification of problems. ERCP may also be needed. - **PET/CT**: Specialized investigation [B]: PET is not recommended for primary diagnosis of pancreatic cancer. It may have a role in depicting malignant or invasive changes in mucinous cystic neoplasms and intraductal papillary neoplasms (IPMNs). - **Biopsy**: Specialized investigation [B]: endoscopic procedures. If images are highly suggestive; tissue diagnosis is not needed. Tissue diagnosis can be attempted if imaging appearances are not characteristic or overlapping with other entities. It should be obtained in patients selected for palliative treatment. Biopsy can be performed using CT, ultrasound or endoscopic ultrasound.
Italian Association of Medical Oncology (AIOM) 2020 [26] (Silvertris et al)	**PANCREATIC CANCER** - CT (Strength: Weakly positive; QoE: Low)
Japan Pancreas Society 2023 [27] (Okusaka et al)	**PANCREATIC CANCER** - US (Recommendation strength: weak; evidence level: C) - Contrast-enhanced CT (Recommendation strength: strong; evidence level: B) - Abdominal MRI (Recommendation strength: weak; evidence level: C) - Endoscopic US (Recommendation strength: weak; evidence level: C) - Endoscopic retrograde cholangiopancreatography (Recommendation strength: weak; evidence level: C) - PET (Recommendation strength: weak; evidence level: C)
Korean NCC 2021 [28]	**PANCREATIC CANCER**

Appendix 2. Evidence tables

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **ERCP**: endoscopic retrograde cholangiopancreatography; **MRI:** magnetic resonance imaging; **MRCP: m**agnetic resonance cholangiopancreatography; **PET: p**ositron emission tomography; **US:** ultrasound	
	- CT (Strength of recommendation: Strong; Level of evidence: Low). - Pancreatobiliary MRI with MRCP (Strength of recommendation: Conditional; Level of evidence: Low). - Pancreas MRI (Strength of recommendation: Conditional; Level of evidence: Moderate). - MRI (Strength of recommendation: Strong; Level of evidence: Moderate).

Abbreviations: CAR: Canadian Association of Radiologists; NCC: National Cancer Center

Table CA13. Suspected liver cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **MRI:** magnetic resonance imaging; **NM:** nuclear medicine; **PET**: positron emission tomography; **US:** ultrasound	
CAR 2012 [25]	**K26. LIVER – PRIMARY LESION HCC: DIAGNOSIS AND STAGING** - **US**: Indicated [B]: Sensitivity for detecting small nodules is low. Screening for HCC should use ultrasound alone. Patient at risk should undergo screening at 6 month intervals. If ultrasound detects lesions less than 1 cm continued follow up with ultrasound at 3 months intervals should be performed. If follow up ultrasound shows interval increase in size then the lesion should be evaluated with Triphasic CT scan or Contrast enhanced MRI based on availability. - **CT triphasic**: Indicated [C]: Triphasic CT increases number of nodules detected. Sensitivity to detect HCC in cirrhotic livers is low. Arterial Hyper vascularity" and" Venous or delayed phase washout should establish the diagnosis of HCC in a cirrhotic liver. If CT scan cannot fully characterize the lesion then MRI should be performed. - **MRI enhanced**: Specialized investigation [B]: Better sensitivity and specificity than CT particularly in nodular cirrhotic livers. Arterial hyper vascularity" and" Venous or delayed phase washout should establish the diagnosis. - **Biopsy**: Indicated [C]: Diagnosis of HCC should be based on imaging characteristics of HCC on MR or CT. Biopsy can be performed if accurate diagnosis of HCC cannot be achieved by these two modalities. - **NM**: Specialized investigation [B]: Sulfur colloid and Gallium scan for Hepatoma assessment superior to FDG PET-CT. **K28. LIVER – SECONDARY LESION: DIAGNOSIS** - **US**: Indicated [B]: US for larger > 2 cm lesions and for guiding percutaneous biopsy. - **CT**: Indicated [B]: Triple phase protocol. Can identify other distal disease. - **MRI**: Indicated [B]: MRI if US negative but high clinical suspicion. Appropriate IV contrast required. - **PET/CT**: Indicated [C]: May be useful if other tests are equivocal, assuming primary tumour is FDG-avid.
American Association for the Study of Liver Diseases 2023 [29] (Singal et al)	**HEPATOCELLULAR CARCINOMA** - multiphasic contrast-enhanced CT or MRI (Level 3, Strong Recommendation). - dynamic contrast enhanced MRI or multiphasic CT (Level 1, Strong Recommendation). - repeat short-interval US (Level 3, Strong Recommendation). - multiphasic contrast enhanced CT or MRI (Level 1, Strong Recommendation).
ACR 2021 [30] (Chernyak et al)	**LIVER LESION – INITIAL CHARACTERIZATION** - Variant 1. Indeterminate, greater than 1 cm liver lesion on initial imaging with US. Normal liver. No suspicion or evidence of extrahepatic malignancy or underlying liver disease. - Variant 2. Indeterminate, greater than 1 cm liver lesion on initial imaging with CT (noncontrast or single-phase) or noncontrast MRI. Normal liver. No suspicion or evidence of extrahepatic malignancy or underlying liver disease.
Argentinian CPG 2020 [31] (Pinero et al)	**HEPATOCELLULAR CARCINOMA** - CT, MRI (Grade of recommendation: Strong; Quality of Evidence: High) - PET CT (Grade of recommendation: Strong; Quality of Evidence: Low to moderate)
Korean Liver Cancer	**HEPATOCELLULAR CARCINOMA**

Appendix 2. Evidence tables

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **MRI:** magnetic resonance imaging; **NM:** nuclear medicine; **PET**: positron emission tomography; **US:** ultrasound	
Association- National Cancer Centre 2022 [32]	- non invasive imaging in high-risk groups (chronic hepatitis B [A1], chronic hepatitis C [B1], or cirrhosis [A1]). - First-line: multiphasic CT, or multiphasic MRI (A1). - Second-line: multiphasic CT, multiphasic MRI (B1).
Liver Cancer Study Group of Japan 2022 [33] (Kubo et al)	**INTRAHEPATIC CHOLANGIOCARCINOMA** - Abdominal US, CT, and MRI (Strong recommendation).
Philippine Guideline 2021 [34] (Barroso et al)	**HEPATOCELLULAR CARCINOMA** - multiphasic, contrast-enhanced CT scan, contrast-enhanced MRI (Strength: Strong; Certainty of evidence: Low).

Abbreviations: CAR: Canadian Association of Radiologists

Table CA14. Incidental liver mass

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **MRI:** magnetic resonance imaging; **US:** ultrasound	
CAR 2012 [25]	This scenario was not addressed in 2012.
ACR 2021 [30]	**LIVER LESION – INITIAL CHARACTERIZATION** - Variant 5. Incidental liver lesion, greater than 1 cm on US, noncontrast or single-phase CT, or noncontrast MRI. Known chronic liver disease. - Variant 8. Incidental liver lesion, less than 1 cm on US, noncontrast or single-phase CT, or noncontrast MRI. Known chronic liver disease.

Abbreviations: ACR: American College of Radiology; CAR: Canadian Association of Radiologists

Table CA16. Suspected anal cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **FDG**: Fludeoxyglucose F^{18}; **IV**: intravenous; **MRI:** magnetic resonance imaging; **PET:** positron emission tomography	
CAR 2012 [25]	**K31. COLORECTAL CANCER: DIAGNOSIS** - **Optical Colonoscopy**: Indicated [A]: Examination of choice. - **CT Colonography**: Indicated [A]: Indicated when colonoscopy incomplete, contra-indicated or unavailable. - **Double contrast barium enema**: Specialized investigation [B]: Due to inferior sensitivity cannot be considered an alternative to colonoscopy. May be considered only when colonoscopy or CT colonography is not available. - **CT abdomen and pelvis with IV iodinated contrast**: Specialized investigation [C]: Inferior to CT Colonography may be considered second line for advanced neoplasia in elderly or infirmed patient unable to tolerate bowel prep and insufflations. - **MRI abdomen with IV gadolinium contrast**: Specialized investigation [C]: Small studies suggest high sensitivity and specificity. But experience is limited in North America. Should only be performed by those with experience. - **FDG/PET/CT**: Not indicated [C]: There is no evidence for use of PET for routine diagnosis of colorectal cancer. Although PET may detect CRC incidentally, it is not indicated due to high false positive and false negative rate and availability of more appropriate tests such as colonoscopy or CT colonography.
German Guidelines 2019 [35] (Vogl et al)	**COLORECTAL CANCER** - CT - MR colonography

Abbreviations: CAR: Canadian Association of Radiologists

Table CA21. Suspected penile cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
MRI: magnetic resonance imaging; **US:** ultrasound	
CAR 2012 [25]	Not covered in the 2012 guideline.
EAU/ASCO 2023 [37] (Brouwer et al)	**PENILE CANCER (PRIMARY TUMOUR)** - MRI - US

Abbreviations: CAR: Canadian Association of Radiologists; EAU/ASCO: European Association of Urology and the American Society of Clinical Oncology

Table CA23. Suspected ovarian cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
	CT: computed tomography; **MRI:** magnetic resonance imaging; **PET:** positron emission tomography; **US:** ultrasound
CAR 2012 [25]	**K51. GYNCOLOGICAL CANCERS – OVARY: DIAGNOSIS** - **US**: Indicated [A]: Ovarian masses are frequently detected on sonography. Transabdominal as well as transvaginal views are mandatory. US can be limited by limited field of view and bowel gas. - **MRI abdomen/pelvis**: Indicated [B]: MRI is the most sensitive and specific problem-solving modality for characterizing adnexal masses.
American Society of Clinical Oncology 2021 [39] (Vanderpuye et al)	**OVARIAN CANCER** - US (abdominal and transvaginal US, Doppler-enhanced) - contrast-enhanced CT of abdomen and pelvis (± thorax)
ESGO/ISUOG/ IOTA/ESGE 2021 [40] (Timmerman et al)	**OVARIAN TUMOURS** - US - MRI - PET-CT - whole-body diffusion MRI - PET-CT
SIEOG 2022 [41]	**ADNEXAL MASS** - Transvaginal US - Transabdominal US
Joint French CPG 2019 [42] (Lavoue et al)	**OVARIAN MASS** - Transvaginal and transabdominal US - pelvic MRI

Abbreviations: ASCO: American Society of Clinical Oncology; CAR: Canadian Association of Radiologists; CPG : Clinical Practice Guideline; ESGO/ISUOG/ IOTA/ESGE: European Society of Gynaecological Oncology, the International Society of Ultrasound in Obstetrics and Gynecology, the International Ovarian Tumour Analysis group and the European Society for Gynaecological Endoscopy; SIEOG: Italian Society For Ultrasound In Obstetrics And Gynecology

Table CA24. Suspected cervical cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
	CT: computed tomography; **MRI:** magnetic resonance imaging; **PET:** positron emission tomography; **US**: ultrasound
CAR 2012 [25]	**K51. GYNECOLOGICAL CANCERS – UTERUS: CERVIX: DIAGNOSIS** - **MRI pelvis only**: Indicated [A]: MRI is the most sensitive and specific imaging modality for LOCAL staging of cervical cancer when compared to CT. CT is best for detection of distant nodes and visceral disease. Usually, both are performed. Some centres now use transrectal US for local invasion, depending on availability of expertise. - **CT abdomen/pelvis**: Indicated [A]: MRI is the most sensitive and specific imaging modality for LOCAL staging of cervical cancer when compared to CT. CT is best for detection of distant nodes and visceral disease. Usually, both are performed. Some centres now use transrectal US for local invasion, depending on availability of expertise. - **PET-CT**: Indicated only in specific circumstances [B]: PET is useful in difficult situations to define the extent of disease with accompanying image registration. Not indicated for early cancers. Level C evidence for advanced cancers. Also useful in assessment of nodal metastases although its impact in this respect on clinical outcome is still being evaluated.

Abbreviations: CAR: Canadian Association of Radiologists

Table CA25. Suspected endometrial/uterine cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
MRI: magnetic resonance imaging; **US:** ultrasound	
CAR 2012 [25]	**K57. GYNECOLOGICAL CANCERS – UTERUS: BODY: DIAGNOSIS** - **US/MRI**: Indicated [B]: US is used for detection and triaging for endometrial biopsy. Staging is surgicopathological. MRI is reserved for problem solving and differentiating benign from malignant lesions.
British Gynaecological Cancer Society 2022 [43] (Morrison et al)	**UTERINE CANCER** - Transvaginal US
German Guideline 2023 [44] (Emons et al)	**ENDOMETRIAL CANCER** - Transvaginal US - MRI
Italian Society For Ultrasound In Obstetrics And Gynecology (SIEOG) 2022 [41]	- Transvaginal US - pelvic US

Abbreviations: CAR: Canadian Association of Radiologists

Table CA26. Suspected vulvar cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CAR 2012 [25]	**K59. VULVAR CANCER: DIAGNOSIS** - Vulvar cancer lesions can be detected visibly or by palpation. Biopsy of suspicious lesions should be performed immediately.

Abbreviations: CAR: Canadian Association of Radiologists

Table CA27. Suspected vaginal cancer

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
	CT: computed tomography; **MRI:** magnetic resonance imaging; **PET:** positron emission tomography; **US**: ultrasound
CAR 2012 [25]	**K62. VAGINAL CANCER: DIAGNOSIS** - Diagnosis based on clinical symptoms and findings. PAP (Papanicolaou) smear, targeted biopsy or colposcopy to confirm diagnosis.
ESTRO/ESGO/SIOPe 2023 [45] (Nout et al)	**VAGINAL CANCER** - MRI - pelvic US - CT chest-abdomen-pelvis - PET-CT

Abbreviations: CAR: Canadian Association of Radiologists; ESTRO/ESGO/SIOPe: European Society for Radiotherapy & Oncology, European Society of Gynaecological Oncology, European Society of Pediatric Oncology

Table CA28. Suspected hematologic malignancies

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered
CT: computed tomography; **MRI**: magnetic resonance imaging; **NM:** nuclear medicine; **PET**: positron emission tomography; **US**: ultrasound	
CAR 2012 [25]	**K65. LYMPHOMA: DIAGNOSIS** - **CT**: Indicated [B]: For evaluation of extent of clinically suspected adenopathy and selection of site for biopsy. - **NM**: Specialized investigation [B]: Being replaced by PET.
British Society for Haematology 2024 [46] (Hughes et al)	**SMOULDERING MYELOMA** - Cross-sectional imaging (i.e. diffusion-weighted whole-body MRI, PET-CT) - Skeletal survey
German CPG 2021 [47] (Zoellner et al)	**FOLLICULAR LYMPHOMA** - CT neck, thorax, abdomen - US

Abbreviations: CAR: Canadian Association of Radiologists; CPG: Clinical practice guideline

APPENDIX 3A. CANCER SUMMARY OF RECOMMENDATIONS (ENGLISH)

Clinical/ Diagnostic Scenario	Recommendations	Strength of Rec.
CT: computed tomography; **MRI**: magnetic resonance imaging; **US**: ultrasound **Strength of Recommendation:** ↑↑: strong for; ↑: conditional for; ↓↓: strong against; ↓: conditional against; **EPc**: Expert Panel consensus		
CA01. SUSPECTED NECK CANCER		
	For suspected neck cancer, see the CAR Head and Neck guideline [18], scenario: ▪ H04. Neck mass of unknown origin, including salivary gland mass	
CA02. SUSPECTED THYROID CANCER		
	For suspected thyroid cancer, see the CAR Head and Neck guideline [18], scenario: ▪ H03A. Thyroid and parathyroid disease: Palpable nodule, including goiter	
CA03. SUSPECTED BRAIN CANCER		
	For suspected brain cancer, see the CAR Central Nervous System guideline [19], scenarios: ▪ CN04. Headache ▪ CN07. Cranial neuropathy, brain stem symptoms ▪ CN09A. Vestibular cochlear symptoms, Hearing loss ▪ CN09B. Vestibular cochlear symptoms, Vertigo ▪ CN12. Epilepsy and seizure ▪ CN14. Intracranial space-occupying lesions	
CA04. SUSPECTED LUNG CANCER		
	For suspected lung cancer, see the CAR Thoracic guideline [20], scenarios: ▪ TH13. Chronic cough ▪ TH16. Hemoptysis ▪ TH20. Suspected mediastinal lesion ▪ TH21. Suspected mediastinal lymphadenopathy ▪ TH22. Elevated diaphragm on chest radiograph	
CA05. INCIDENTAL LUNG CANCER		
	For incidental lung nodule, see the CAR Thoracic guideline [20], scenario: ▪ TH19. Incidental lung nodule	
CA06. SUSPECTED INTRACARDIAC/PERICARDIAL CANCER		
	For suspected intracardiac/ pericardial cancer, see the CAR Cardiovascular guideline [21], scenario: ▪ CV05B. Intracardiac/pericardial: Masses	
CA07. SUSPECTED SOFT TISSUE MASS OR TUMOUR		
	For suspected soft tissue mass or tumour, see CAR Musculoskeletal system guideline [22], scenario: ▪ M07. Soft tissue mass or tumour	
CA08. SUSPECTED BONE TUMOUR		

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. Whether or not imaging is indicated is outside the scope of this guideline. The recommendations in this section are related to diagnosis and do not cover staging. Additionally, we did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring. These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability. We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient. Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

Clinical/ Diagnostic Scenario	Recommendations	Strength of Rec.
	CT: computed tomography; **MRI**: magnetic resonance imaging; **US**: ultrasound **Strength of Recommendation:** ↑↑: strong for; ↑: conditional for; ↓↓: strong against; ↓: conditional against; **EPc**: Expert Panel consensus	
	For suspected soft tissue mass or tumour, see the CAR Musculoskeletal system guideline [22], scenario: ▪ M04. Bone tumour – Primary For suspected bone tumour metastases, see the CAR Musculoskeletal system guideline [22], scenario: ▪ M05. Bone tumour – Metastases	
CA09. SUSPECTED BONE TUMOUR – MYELOMA		
	For suspected primary bone tumour – myeloma, see the CAR Musculoskeletal system guideline [22], scenario: ▪ M06. Bone tumour – Myeloma	
CA10. SUSPECTED SPINE TUMOUR		
	For suspected tumour of the spine, see the CAR Spine guideline [23], scenario: ▪ SP07. Suspected spinal tumour	
CA11. SUSPECTED ESOPHAGEAL/GASTRIC CANCER		
	For suspected esophageal/gastric cancer, see the 2024 CAR Gastrointestinal guideline [24], scenarios: ▪ GI01. Dysphagia/dyspepsia ▪ GI03A. Epigastric pain ▪ GI04. Chronic abdominal pain ▪ GI07. Chronic GI bleeding	
CA12. SUSPECTED PANCREATIC CANCER		
	1. In adults with suspected pancreatic cancer, we recommend **CT** as the initial imaging modality.	↑↑
CA13. SUSPECTED LIVER CANCER		
	1. In adults with suspected hepatocellular carcinoma, we recommend **liver protocol MRI or CT** as the initial imaging modality. *MRI is preferred, as there is better contrast resolution. The decision for CT or MRI may be based on availability and expertise.*	↑↑
CA14. INCIDENTAL LIVER MASS		
	1. In adults with suspicious liver mass on US, non-contrast/single-phase CT or non-contrast MRI, we recommend **liver protocol MRI or CT** as the next imaging modality.	↑↑
CA15. INCIDENTAL COLON MASS OR SUSPECTED COLON CANCER		
	1. In adults with incidental colon mass or suspected colon cancer, where colonoscopy is not feasible/possible, where colonoscopy was incomplete, or if the patient declines colonoscopy, we recommend **CT colonography** as the initial imaging modality.	EPc
CA16. SUSPECTED ANAL CANCER		

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. Whether or not imaging is indicated is outside the scope of this guideline. The recommendations in this section are related to diagnosis and do not cover staging. Additionally, we did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring. These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability. We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient. Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

Clinical/ Diagnostic Scenario	Recommendations	Strength of Rec.
	CT: computed tomography; **MRI**: magnetic resonance imaging; **US**: ultrasound **Strength of Recommendation:** ↑↑: strong for; ↑: conditional for; ↓↓: strong against; ↓: conditional against; **EPc**: Expert Panel consensus	
	Diagnosis of anal cancer should be based on clinical examination/direct visualization.	
CA17. SUSPECTED RENAL CANCER		
	For suspected renal cancer, see the CAR Genitourinary guideline [36], scenario: ▪ GU06. Renal lesion	
CA18. SUSPECTED ADRENAL CANCER		
	For suspected adrenal cancer, see the CAR Genitourinary guideline [36], scenario: ▪ GU10. Adrenal mass	
CA19. SUSPECTED BLADDER CANCER		
	For suspected bladder cancer, see the CAR Genitourinary guideline [36], scenarios: ▪ GU01A. Hematuria: Gross hematuria ▪ GU01B. Hematuria: Microhematuria ▪ GU11. Incontinence, urgency, and frequency	
CA20. SUSPECTED TESTICULAR CANCER		
	For suspected testicular cancer, see the CAR Genitourinary guideline [36], scenario: ▪ GU09. Scrotal mass or pain	
CA21. SUSPECTED PENILE CANCER		
	Diagnosis of penile cancer should be based on clinical examination/direct visualization.	
CA22. SUSPECTED PROSTATE CANCER		
	For suspected prostate cancer, see the CAR Genitourinary guideline [36], scenario: ▪ GU13. Elevated PSA [prostate-specific antigen]	
CA23. SUSPECTED OVARIAN CANCER		
	For suspected ovarian cancer, see the CAR Obstetrics and Gynecology guideline [38], scenario: ▪ OG07. Evaluation of Adnexal mass	
CA24. SUSPECTED CERVICAL CANCER		
	Diagnosis of cervical cancer should be made clinically (e.g., Pap [Papanicolaou] smear, biopsy).	
CA25. SUSPECTED ENDOMETRICAL/UTERINE CANCER		
	1. In adults with suspected endometrial/uterine cancer, we recommend **combined transabdominal and transvaginal US with Doppler** as the initial imaging modalities.	↑↑
CA26. SUSPECTED VULVAR CANCER		
	Diagnosis of vulvar cancer should be based on clinical examination/direct visualization.	

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. Whether or not imaging is indicated is outside the scope of this guideline. The recommendations in this section are related to diagnosis and do not cover staging. Additionally, we did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring. These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability. We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient. Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

Clinical/ Diagnostic Scenario	Recommendations	Strength of Rec.
CT: computed tomography; **MRI**: magnetic resonance imaging; **US**: ultrasound **Strength of Recommendation:** ↑↑: strong for; ↑: conditional for; ↓↓: strong against; ↓: conditional against; **EPc**: Expert Panel consensus		
CA27. SUSPECTED VAGINAL CANCER		
	Diagnosis of vaginal cancer should be based on clinical examination/direct visualization.	
CA28. SUSPECTED HEMATOLOGIC MALIGNANCIES		
	Suspected lymphoma **1.** In adults with suspected lymphoma, we recommend **CT neck, chest, abdomen, pelvis** as the initial imaging modality.	↑↑
	Suspected myeloma For suspected myeloma, see the CAR Musculoskeletal system guideline [21], scenario: ▪ M06. Bone tumour – Myeloma	
	Other hematologic malignancies Other hematologic malignancies may be diagnosed based on laboratory investigations.	
CA29. SUSPECTED SKIN CANCER		
	Diagnosis of skin cancer should be based on clinical examination/direct visualization.	

The guideline recommendations are to assist the choice of imaging modality in situations where it is felt clinically necessary to obtain imaging. Imaging should not delay definitive management. Whether or not imaging is indicated is outside the scope of this guideline. The recommendations in this section are related to diagnosis and do not cover staging. Additionally, we did not cover serial imaging, and time intervals for follow-up of known disease and/or treatment monitoring. These recommendations are not intended to stand alone. Medical care should be based on evidence, a clinician's expert judgment, the patient's circumstances, values, and preferences, and resource availability. We recognize that not all imaging modalities are available in all locations, particularly in rural or remote areas of Canada. Decisions about whether to recommend that a patient travel for recommended imaging or perform alternate imaging locally can be difficult, and should consider the expected benefits of recommended imaging, risks of travel, patient preference, and other factors. This guideline is based on evidence related to diagnostic imaging tests only, not the clinical management of a patient. Unless the panel agreed a specific protocol is required to optimize patient care/diagnosis, the recommendations do not specify when contrast should or should not be used, as this decision may vary based on clinical presentation, regional practice preferences, preference of the referring clinician, radiologist and the patient, and resource availability.

APPENDIX 3B. CANCER SUMMARY OF RECOMMENDATIONS (FRENCH)

Scénario clinique/diagnostique	Recommandations	Force
ÉCHO : échographie; **IRM** : imagerie par résonance magnétique; **TDM** : tomodensitométrie **Force de la recommandation :** ↑↑ : fortement recommandé; ↑ : recommandé dans certain cas; ↓↓ : fortement déconseillé; ↓ : déconseillé dans certains cas; **CE** : consensus d'un groupe d'experts		
CA01. CANCER DU COU PRÉSUMÉ		
	Dans le cas d'un cancer du cou présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de la tête et du cou [18], scénario : ▪ H04. Masse au niveau du cou d'origine inconnue, y compris masse des glandes salivaires	
CA02. CANCER THYROÏDIEN PRÉSUMÉ		
	Dans le cas d'un cancer thyroïdien présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de la tête et du cou [18], scénario : ▪ H03A. Nodule palpable, y compris un goitre	
CA03. CANCER DU CERVEAU PRÉSUMÉ		
	Dans le cas d'un cancer du cerveau présumé, se référer aux lignes directrices de la CAR en matière d'imagerie du système nerveux central [19], scénarios : ▪ CN04. Céphalée ▪ CN07. Neuropathie crânienne, symptômes liés au tronc cérébral ▪ CN09A. Symptômes vestibulaires ou cochléaire - Perte d'audition (hypoacousie) ▪ CN09B. Symptômes vestibulaires ou cochléaire - Vertige ▪ CN12. Épilepsie et crises ▪ CN14. Lésions occupant l'espace intracrânien	
CA04. CANCER DU POUMON PRÉSUMÉ		
	Dans le cas d'un nodule du poumon présumé, se référer aux lignes directrices de la CAR en matière d'imagerie du thorax [20], scénarios : ▪ TH13. Toux chronique ▪ TH16. Hémoptysie ▪ TH20. Soupçon de lésions du médiastin ▪ TH21. Soupçon de lymphadénopathie médiastinale ▪ TH22. Diaphragme surélevé sur la radiographie pulmonaire	
CA05. CANCER DU POUMON DE DÉCOUVERTE FORTUITE		
	Dans le cas d'un cancer du poumon de découverte fortuite, se référer aux lignes directrice de la CAR en matière d'imagerie du thorax [20], scénario : ▪ TH19. Nodule du poumon de découverte fortuite	
CA06. CANCER INTRACARDIAQUE/PÉRICARDIQUE PRÉSUMÉ		

Ces recommandations ne sont pas conçues pour être utilisées seules. Les soins médicaux doivent reposer sur des données probantes, le jugement expert d'un clinicien, la situation, les valeurs et les préférences d'un patient, ainsi que sur la disponibilité des ressources. Nous sommes conscients que certaines modalités d'imagerie ne sont pas disponibles partout, en particulier dans les zones rurales et isolées du Canada. Il peut être difficile de décider s'il vaut mieux recommander à un patient de se déplacer pour obtenir l'imagerie recommandée ou d'effectuer localement un autre type d'imagerie; à cet égard, il faut tenir compte des avantages attendus de l'imagerie recommandée, des risques liés au déplacement, des préférences du patient et d'autres facteurs. La présente ligne directrice repose sur des données probantes liées uniquement aux tests d'imagerie diagnostique et non à la gestion clinique du patient.

Scénario clinique/diagnostique	Recommandations	Force
ÉCHO : échographie; **IRM** : imagerie par résonance magnétique; **TDM** : tomodensitométrie **Force de la recommandation :** ↑↑ : fortement recommandé; ↑ : recommandé dans certain cas; ↓↓ : fortement déconseillé; ↓ : déconseillé dans certains cas; **CE** : consensus d'un groupe d'experts		
	Dans le cas d'un cancer intracardiaque/péricardique présumé, se référer aux lignes directrices de la CAR en matière d'imagerie du système cardiovasculaire [21], scénario : ▪ CV05B. Masses du cœur ou du péricarde - Masses	
CA07. MASSE OU TUMEUR DES TISSUS MOUS PRÉSUMÉE		
	Dans le cas d'une masse ou tumeur des tissus mous présumée, se référer aux lignes directrices de la CAR en matière d'imagerie du système musculo-squelettique [22], scénario : ▪ M07. Masse ou tumeur des tissus mous	
CA08. TUMEUR OSSEUSE PRÉSUMÉE		
	Dans le cas d'une masse ou tumeur des tissus mous, se référer aux lignes directrices de la CAR en matière d'imagerie du système musculo-squelettique [22], scénario : ▪ M04. Tumeur osseus - primaire Dans le cas d'une tumeur osseuse - métastases, se référer aux lignes directrices de la CAR en matière d'imagerie du système musculo-squelettique [22], scénario : ▪ M05. Tumeur osseuse - Métastases	
CA09. TUMEUR OSSEUSE PRÉSUMÉE — MYÉLOME		
	Dans le cas d'une tumeur osseuse présumée - myeloma, se référer aux lignes directrices de la CAR en matière d'imagerie du système musculo-squelettique [22], scénario : ▪ M06. Tumeur osseuse – Myélome	
CA10. TUMEUR DE LA COLONNE VERTÉBRALE PRÉSUMÉE		
	Dans le cas d'une tumeur de la colonne vertébrale présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de la colonne vertébrale [23], scénario : ▪ SP07. Suspicion de tumeur de la colonne vertébrale	
CA11. CANCER GASTRIQUE/CANCER DE L'ŒSOPHAGE PRÉSUMÉ		
	Dans le case d'un cancer gastrique/cancer de l'œsophage présumé, se référer aux lignes directrices de la CAR 2024 en matière d'imagerie du tractus gastro-intestinal [24], scénarios : ▪ GI01. Dysphagie ou dyspepsie ▪ GI03A. Douleur épigastrique ▪ GI04. Douleur abdominale chronique ▪ GI07. Saignement digestif chronique/anémie	
CA12. CANCER DU PANCRÉAS PRÉSUMÉ		
	1. Dans le cas d'adultes chez qui l'on soupçonne un cancer du pancréas, nous recommandons la **TDM** comme modalité d'imagerie initiale.	↑↑

Ces recommandations ne sont pas conçues pour être utilisées seules. Les soins médicaux doivent reposer sur des données probantes, le jugement expert d'un clinicien, la situation, les valeurs et les préférences d'un patient, ainsi que sur la disponibilité des ressources. Nous sommes conscients que certaines modalités d'imagerie ne sont pas disponibles partout, en particulier dans les zones rurales et isolées du Canada. Il peut être difficile de décider s'il vaut mieux recommander à un patient de se déplacer pour obtenir l'imagerie recommandée ou d'effectuer localement un autre type d'imagerie; à cet égard, il faut tenir compte des avantages attendus de l'imagerie recommandée, des risques liés au déplacement, des préférences du patient et d'autres facteurs. La présente ligne directrice repose sur des données probantes liées uniquement aux tests d'imagerie diagnostique et non à la gestion clinique du patient.

Scénario clinique/diagnostique	Recommandations	Force
ÉCHO : échographie; **IRM** : imagerie par résonance magnétique; **TDM** : tomodensitométrie **Force de la recommandation :** ↑↑ : fortement recommandé; ↑ : recommandé dans certain cas; ↓↓ : fortement déconseillé; ↓ : déconseillé dans certains cas; **CE** : consensus d'un groupe d'experts		
CA13. CANCER DU FOIE PRÉSUMÉ		
	1. Dans le cas d'adultes chez qui l'on soupçonne un carcinome hépatocellulaire, nous recommandons **la TDM ou l'IRM du foie** comme modalité d'imagerie initiale. *L'IRM est à privilégier, car elle permet une meilleure résolution du contraste. Le choix entre l'IRM et la TDM est fondé sur la disponibilité de la modalité et l'expertise du radiologiste.*	↑↑
CA14. MASSE HÉPATIQUE DE DÉCOUVERTE FORTUITE		
	1. Chez les adultes qui présentent une masse hépatique suspecte à l'échographie, à la TDM sans contraste/à phase unique ou à l'IRM sans contraste, nous nous recommandons **la TDM ou l'IRM du foie** comme modalité d'imagerie subséquente.	↑↑
CA15. MASSE DU CÔLON DE DÉCOUVERTE FORTUITE OU CANCER DU CÔLON PRÉSUMÉ		
	1. Dans le cas d'adultes présentant une masse du côlon de découverte fortuite ou un cancer du côlon présumé, chez qui une coloscopie n'est pas possible/réalisable ou est incomplète, ou si le patient a refusé de se soumettre à une coloscopie, nous recommandons la **coloscopie virtuelle par TDM** comme modalité d'imagerie initiale.	CE
CA16. CANCER DE L'ANUS PRÉSUMÉ		
	Le diagnostic du cancer de l'anus doit se fonder sur l'examen clinique/la visualisation directe.	
CA17. CANCER RÉNAL PRÉSUMÉ		
	Dans le cas d'un cancer rénal présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de l'appareil génito-urinaire [36], scénario : ▪ GU06. Lésion rénale	
CA18. CANCER SURRÉNALIEN PRÉSUMÉ		
	Dans le cas d'un cancer surrénalien présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de l'appareil génito-urinaire [36], scénario : ▪ GU10. Masses surrénalienne	
CA19. CANCER DE LA VESSIE PRÉSUMÉ		
	Dans le cas d'un cancer de la vessie présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de l'appareil génito-urinaire [36], scénario : ▪ GU01A. Hématurie macroscopique ▪ GU01B. Hématurie microscopique ▪ GU11. Incontinence, urgence et mictions fréquentes	
CA20. CANCER DU TESTICULE PRÉSUMÉ		

Ces recommandations ne sont pas conçues pour être utilisées seules. Les soins médicaux doivent reposer sur des données probantes, le jugement expert d'un clinicien, la situation, les valeurs et les préférences d'un patient, ainsi que sur la disponibilité des ressources. Nous sommes conscients que certaines modalités d'imagerie ne sont pas disponibles partout, en particulier dans les zones rurales et isolées du Canada. Il peut être difficile de décider s'il vaut mieux recommander à un patient de se déplacer pour obtenir l'imagerie recommandée ou d'effectuer localement un autre type d'imagerie; à cet égard, il faut tenir compte des avantages attendus de l'imagerie recommandée, des risques liés au déplacement, des préférences du patient et d'autres facteurs. La présente ligne directrice repose sur des données probantes liées uniquement aux tests d'imagerie diagnostique et non à la gestion clinique du patient.

Scénario clinique/diagnostique	Recommandations	Force
ÉCHO : échographie; **IRM** : imagerie par résonance magnétique; **TDM** : tomodensitométrie **Force de la recommandation :** ↑↑ : fortement recommandé; ↑ : recommandé dans certain cas; ↓↓ : fortement déconseillé; ↓ : déconseillé dans certains cas; **CE** : consensus d'un groupe d'experts		
	Dans le cas d'un cancer du testicule présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de l'appareil génito-urinaire [36], scénario : ▪ GU09. Masse ou douleur scrotale, y compris torsion testiculaire et épididymite	
CA21. CANCER PÉNIEN PRÉSUMÉ		
	Le diagnostic du cancer du pénis doit se fonder sur l'examen clinique/la visualisation directe.	
CA22. CANCER DE LA PROSTATE PRÉSUMÉ		
	Dans le cas d'un cancer de la prostate présumé, se référer aux lignes directrices de la CAR en matière d'imagerie de l'appareil génito-urinaire [36], scénario : ▪ GU13. Taux sanguin élevé d'aps	
CA23. CANCER DE L'OVAIRE PRÉSUMÉ		
	Dans le cas d'un cancer de l'ovaire présumé, se référer aux lignes directrices de la CAR en obstétrique et gynécologie [38], scénario : ▪ OG07. Évaluation d'une masse annexielle	
CA24. CANCER DU COL UTÉRIN PRÉSUMÉ		
	Le diagnostic de cancer du col utérin devrait être posé sur la base d'un examen clinique (par ex., test Pap [frottis cervical], biopsie).	
CA25. CANCER DE L'ENDOMÈTRE/CANCER DE L'UTÉRUS PRÉSUMÉ		
	1. Dans le cas d'adultes chez qui l'on soupçonne un cancer de l'endomètre/cancer de l'utérus, nous recommandons l'**échographie pelvienne trans-vésicale et endovaginale avec doppler** comme modalités d'imagerie initiales.	↑↑
CA26. CANCER DE LA VULVE PRÉSUMÉ		
	Le diagnostic du cancer de la vulve doit se fonder sur l'examen clinique/la visualisation directe.	
CA27. CANCER DU VAGIN PRÉSUMÉ		
	Le diagnostic du cancer du vagin doit se fonder sur l'examen clinique/la visualisation directe.	
CA28. MALIGNITÉS HÉMATOLOGIQUES PRÉSUMÉES		
	Lymphome présumé **1.** Dans le cas d'adultes chez qui l'on soupçonne un lymphome, nous recommandons une **TDM du cou, thoracique, abdominale et pelvienne** comme modalité d'imagerie initiale.	↑↑
	Myélome présumé Dans le cas d'un myélome présumée, se référer aux lignes directrices de la CAR en matière d'imagerie du système musculo-squelettique [22], scénario :	

Ces recommandations ne sont pas conçues pour être utilisées seules. Les soins médicaux doivent reposer sur des données probantes, le jugement expert d'un clinicien, la situation, les valeurs et les préférences d'un patient, ainsi que sur la disponibilité des ressources. Nous sommes conscients que certaines modalités d'imagerie ne sont pas disponibles partout, en particulier dans les zones rurales et isolées du Canada. Il peut être difficile de décider s'il vaut mieux recommander à un patient de se déplacer pour obtenir l'imagerie recommandée ou d'effectuer localement un autre type d'imagerie; à cet égard, il faut tenir compte des avantages attendus de l'imagerie recommandée, des risques liés au déplacement, des préférences du patient et d'autres facteurs. La présente ligne directrice repose sur des données probantes liées uniquement aux tests d'imagerie diagnostique et non à la gestion clinique du patient.

Scénario clinique/diagnostique	Recommandations	Force
ÉCHO : échographie; **IRM** : imagerie par résonance magnétique; **TDM** : tomodensitométrie **Force de la recommandation :** ↑↑ : fortement recommandé; ↑ : recommandé dans certain cas; ↓↓ : fortement déconseillé; ↓ : déconseillé dans certains cas; **CE** : consensus d'un groupe d'experts		
	▪ M06. Tumeur osseuse – Myélome	
	Autres malignités hématologiques Le diagnostic des malignités hématologiques autres devrait se fonder sur les résultats d'examens de laboratoire.	
CA29. CANCER DE LA PEAU PRÉSUMÉ		
	Le diagnostic du cancer de la peau doit se fonder sur l'examen clinique/la visualisation directe.	

APPENDIX 4. POTENTIALLY RELEVANT NON-ENGLISH GUIDELINES

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APPENDIX 5. AGREE-II ASSESSMENTS

Guideline	Domain 1				Domain 2				Domain 3									Domain 4				Domain 5					Domain 6			Overall quality
	1	2	3	Score (%)	4	5	6	Score (%)	7	8	9	10	11	12	13	14	Score (%)	15	16	17	Score (%)	18	19	20	21	Score (%)	22	23	Score (%)	
AIOM 2020 [26]	3	3	3	9 (100)	3	3	3	9 (100)	3	3	3	3	1	3	3	1	20 (83)	3	1	3	7 (78)	1	1	1	1	4 (33)	3	3	6 (100)	Moderate
JPS 2020 [27]	3	3	3	9 (100)	3	3	3	9 (100)	3	1	3	3	3	1	3	1	18 (75)	3	3	3	9 (100)	1	3	3	1	8 (67)	3	3	6 (100)	High
Korean NNC 2021 [28]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	3	3	3	1	10 (83)	3	3	6 (100)	High
AASLD 2023 [29]	3	2	3	8 (89)	3	1	2	6 (67)	3	1	3	1	3	3	3	1	18 (75)	3	3	3	9 (100)	1	3	3	3	10 (83)	3	3	6 (100)	High
ACR 2020 [30]	3	3	3	9 (100)	3	1	3	7 (78)	3	2	3	3	3	3	3	1	21 (88)	3	3	3	9 (100)	3	3	2	1	9 (75)	3	3	6 (100)	High
Arg. CPG 2020 [31]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	1	1	3	3	1	18 (75)	3	3	3	9 (100)	1	3	1	1	6 (50)	3	3	6 (100)	High
KLCA-NCC 2022 [32]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	3	3	1	3	10 (83)	3	3	6 (100)	High
Japan CPG 2022 [33]	3	3	3	9 (100)	3	1	2	6 (67)	3	1	1	1	1	3	3	1	14 (58)	3	3	3	9 (100)	1	3	3	1	8 (67)	3	3	6 (100)	Moderate
Philippine CPG 2021 [34]	3	3	3	9 (100)	3	3	3	9 (100)	3	3	3	3	3	3	3	2	23 (96)	3	3	3	9 (100)	3	3	3	1	10 (83)	3	3	6 (100)	High
DGVS 2019 [35]	3	3	3	9 (100)	3	1	3	7 (78)	3	1	3	3	1	3	3	1	18 (75)	3	3	3	9 (100)	3	1	1	1	6 (50)	3	3	6 (100)	High
EAU/ASCO 2023 [37]	3	3	3	9 (100)	3	1	3	7 (78)	3	1	3	2	1	3	3	1	17 (71)	3	3	3	9 (100)	1	2	1	1	5 (42)	3	3	6 (100)	Moderate
ASCO 2021 [39]	3	3	3	9 (100)	3	3	3	9 (100)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	3	3	3	3	12 (100)	3	3	6 (100)	High
ESGO/ISUOG/ IOTA/ESGE 2021 [40]	3	1	3	7 (78)	3	3	3	9 (100)	3	3	3	3	1	3	3	1	20 (83)	3	3	3	9 (100)	1	3	1	1	6 (50)	3	3	6 (100)	High
SIEOG 2022 [41]	3	3	3	9 (100)	3	3	3	9 (100)	3	1	3	3	3	1	3	1	18 (75)	3	1	3	7 (78)	1	1	3	1	6 (50)	3	3	6 (100)	Moderate
Joint French CPG 2019 [42]	3	3	3	9 (100)	3	3	3	9 (100)	3	3	3	3	1	3	3	1	20 (83)	3	3	2	8 (89)	1	3	1	1	6 (50)	3	3	6 (100)	High
DGGG/DKG/DKH 2023 [44]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	1	1	3	1	18 (75)	3	3	3	9 (100)	1	3	1	1	6 (50)	3	3	6 (100)	High

Appendix 5. AGREE-II assessments

Guideline	Domain 1				Domain 2				Domain 3									Domain 4				Domain 5					Domain 6			Overall quality
	1	2	3	Score (%)	4	5	6	Score (%)	7	8	9	10	11	12	13	14	Score (%)	15	16	17	Score (%)	18	19	20	21	Score (%)	22	23	Score (%)	
ESTRO/ESGO/SIOPe 2023 [45]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	1	3	3	1	20 (83)	3	3	3	9 (100)	1	1	2	1	5 (42)	3	3	6 (100)	Moderate
BGCS 2022 [43]	3	1	3	7 (78)	3	1	3	7 (78)	3	1	3	2	1	3	3	1	17 (71)	3	3	3	9 (100)	1	2	1	1	5 (42)	3	3	6 (100)	Moderate
BSH 2024 [46]	3	2	3	8 (89)	3	1	2	6 (67)	3	3	3	3	1	3	3	1	20 (83)	3	3	3	9 (100)	1	3	1	1	6 (50)	3	3	6 (100)	High
German Gdln 2021 [47]	3	2	3	8 (89)	3	3	3	9 (100)	3	1	3	3	1	3	3	1	18 (75)	3	3	2	8 (89)	1	3	3	1	8 (67)	3	3	6 (100)	Moderate

Abbreviations: AASLD: American Association for the Study of Liver Diseases; ACR: American College of Radiology; AIOM: Italian Association of Medical Oncology; ASCO: American Society of Clinical Oncology; BGCS: British Gynaecological Cancer Society; BSH: British Society for Haematology; CPG: Clinical Practice Guideline; DGG/DKG/DKH: German Society for Gynecology and Obstetrics, the Gynecology Oncology Working Group of the German Cancer Society and the German Cancer Aid; DGVS: German Society for Digestive and Metabolic Disorders; EAU/ASCO: European Association of Urology-American Society of Clinical Oncology; ESGO/ISUOG/ IOTA/ESGE: European Society of Gynaecological Oncology, the International Society of Ultrasound in Obstetrics and Gynecology, the International Ovarian Tumour Analysis group and the European Society for Gynaecological Endoscopy; ESTRO/ESGO/SIOPe: European Society of Gynaecological Oncology jointly with the European Society for Radiotherapy & Oncology and the European Society of Pediatric Oncology JPS: Japan Pancreas Society; NNC: National Cancer Center; SIEOG: Italian Society of Ultrasound in Obstetrics and Gynecology