

Appendix 1. Search Strategies

Urology Guidelines
2023 May 29

Ovid Multifile

Database: Embase Classic+Embase <1947 to 2023 May 25>,
Ovid MEDLINE(R) ALL <1946 to May 25, 2023>

Search Strategy:

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1  exp Urologic Diseases/ (2645613)
2  ((urolog* or urinary or ureter* or urethra* or genitourinar* or
bladder* or kidney* or renal) adj3 (disease? or disorder? or
dysfunction* or problem*)).tw,kw,kf. (640025)
3  Hematuria/ (75575)
4  (macroh?ematuria? or macro-h?ematuria? or
microh?ematuria? or microh?ematuria?).tw,kw,kf. (4270)
5  h?ematuria?.tw,kw,kf. (67563)
6  ((visible discolo?r* or (visible adj3 blood) or (visible adj3
bleeding)) adj3 (urine or urinary)).tw,kw,kf. (33)
7  Hypertension/ (1032541)
8  exp Essential Hypertension/ (35843)
9  ((essential or primary) adj3 hypertens*).tw,kw,kf. (84001)
10 Kidney Diseases/ (148894)
11 exp Renal Insufficiency/ (713606)
12 ((kidney? or renal) adj3 (disease? or failure? or injur* or
insufficien*)).tw,kw,kf. (883678)
13 Renal Colic/ (4397)
14 ((kidney? or renal or ureteral) adj3 colic?).tw,kw,kf. (7520)
15 exp Kidney Calculi/ (66182)
16 ((kidney? or nephron? or renal or staghorn) adj3 (calculi or
calculos#s or calculus or calculogenes#s or calculo-genes#s or
lithias#s or stone or stones)).tw,kw,kf. (53206)
17 (nephrolith* or nephro-lith* or renolithias#s or reno-
lithias#s).tw,kw,kf. (33724)
18 Ureteral Calculi/ (15763)
19 (ureter* adj3 (calculi or calculos#s or calculus or
calculogenes#s or calculo-genes#s or lithias#s or stone or
stones)).tw,kw,kf. (21180)
20 ((bladder? or kidney? or renal or ureter*) adj3
lesion?).tw,kw,kf. (34332)
21 Urinary Tract/ and (obstruct* or block*).ti. (1724)
22 Ureteral Obstruction/ (26329)
23 exp Urethral Obstruction/ (14342)
24 ((bladder? or kidney? or renal or ureter* or urinary or urine)
adj3 (obstruct* or block*)).ti,kw,kf. (26074)
25 (LUTO or LUTOs).tw,kw,kf. (343)
26 (UTO or UTOs).tw,kw,kf. (220)
27 Pyelectasis/ (367)
28 (pyelectas#s or pelviectas#s).tw,kw,kf. (670)
29 exp Hydronephrosis/ (42855)
30 (hydronephros* or hydro-nephros* or nephrohydros* or
nephro-hydros* or hydronephrotic kidney? or hydro-nephrotic
kidney?).tw,kw,kf. (36322)
31 dilated kidney?.tw,kw,kf. (100)
32 (pyonephros#s or pyo-nephros#s).tw,kw,kf. (1894)
33 exp Urinary Tract Infections/ (201628)
34 Urinary Tract/ and infection?.ti. (6546)
35 ((bladder or kidney? or nephron? or renal or ureter* or
urinary or urine or urologic* or urogenitalis or uro-genitalis or
genitourinary) adj3 infection?).tw,kw,kf. (172967)

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36  ((UTI or UTIs) and (urinary or urine or tract or tractus or
infection?)).tw,kw,kf. (39227)
37  exp Pyelonephritis/ (48209)
38  (pyelonephrit* or pyelo-nephrit*).tw,kw,kf. (37727)
39  ((scrotal or scrotum or testic* or testis) adj3 (disease? or
disorder?)).tw,kw,kf. (4124)
40  Epididymitis/ (7990)
41  epididymit#s.tw,kw,kf. (5947)
42  ((scrotal or scrotum or testic* or testis) adj3 (pain* or swell*
or swollen)).tw,kw,kf. (9222)
43  orchialgia*.tw,kw,kf. (424)
44  Spermatic Cord Torsion/ (6929)
45  ((spermatic or testic* or testis) adj3 torsio*).tw,kw,kf. (7704)
46  ((scrotal or scrotum or testic* or testis) adj3 (lump or lumps
or mass or masses or pain*)).tw,kw,kf. (11422)
47  ((adrenal or renal) adj3 (adenoma? or incidentaloma? or
lump or lumps or mass or masses or tumor?r?)).tw,kw,kf. (94532)
48  exp Urinary Incontinence/ (128028)
49  ((bladder or urinary or urine) adj3 (incontinen* or
leak*)).tw,kw,kf. (96252)
50  ((chronic* or constant* or excessiv* or frequent* or
incessant* or persistent*) adj3 (micturition or urinat*)).tw,kw,kf.
(2262)
51  (pollakiuria? or pollakisuria?).tw,kw,kf. (1967)
52  Prostatitis/ (15857)
53  (prostatit#s adj3 (chronic* or ceaseless* or constant* or
continual* or continuous* or incessant* or lingering or persist* or
recur* or relaps* or unremit*)).tw,kw,kf. (8545)
54  Prostate-Specific Antigen/ and (abnormal* or borderline or
elevated or high* or increas* or rise? or rising or suspicious or
"not normal" or threshold*).ti. (7690)
55  ((abnormal* or borderline or elevated or high* or increas* or
rise? or rising or suspicious or "not normal" or threshold*) adj3
PSA).tw,kw,kf. (23532)
56  ((abnormal* or borderline or elevated or high* or increas* or
rise? or rising or suspicious or "not normal" or threshold*) adj3
prostate-specific antigen?).tw,kw,kf. (8080)
57  ((greater than or more than or between) adj ("4" or four or
"5" or five or "6" or six or "7" or seven or "8" or eight or "9" or nine
or "10" or ten) adj5 (PSA or prostate-specific antigen?)).tw,kw,kf.
(1456)
58  Pelvic Floor Disorders/ (3826)
59  ((pelvic or pelvis) adj3 (diaphragm* or floor or ground?)
adj10 (condition? or disorder? or dysfunction* or
problem*)).tw,kw,kf. (11001)
60  or/1-59 [CONDITIONS OF INTEREST] (3963061)
61  exp Urography/ (81418)
62  (urograph* or urogram* or uro-graph* or uro-gram*).tw,kw,kf.
(25883)
63  (cystograph* or cystogram* or cysto-graph* or cysto-
gram*).tw,kw,kf. (7933)
64  (pyelograph* or pyelogram* or pyelo-graph* or pyelo-
gram*).tw,kw,kf. (12771)
65  (renograph* or renogram* or reno-graph* or reno-
gram*).tw,kw,kf. (9569)
66  (nephrograph* or nephrogram* or nephro-graph* or nephro-
gram*).tw,kw,kf. (3076)
67  (radionephrograph* or radio-nephrogram* or radio-nephro-
graph* or radio-nephro-gram*).tw,kw,kf. (224)

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Appendix 1. Search Strategies

- 68 (urethrograph* or urethrogram* or urethro-graph* or urethro-gram*).tw,kw,kf. (4637)
- 69 (sonourethrograph* or sonourethrogram* or sono-urethrograph* or sono-urethrogram* or sono-urethro-graph* or sono-urethro-gram*).tw,kw,kf. (168)
- 70 Diagnostic Imaging/ (288032)
- 71 dg.fs. [diagnostic imaging] (1435147)
- 72 (diagnos* adj3 (image? or imaging)).tw,kw,kf. (141298)
- 73 (x-ray* or xray*).tw,kw,kf. (982865)
- 74 Image Interpretation, Computer-Assisted/ (91500)
- 75 exp Imaging, Three-Dimensional/ (216661)
- 76 ((3D or 3-D or 3-dimension* or three dimension*) adj (image? or imaging)).tw,kw,kf. (49946)
- 77 exp Ultrasonography/ (1479763)
- 78 (ultrasound* or ultrasonograph* or ultra-sonograph* or ultrasonic* or ultra-sonic*).tw,kw,kf. (1147082)
- 79 (echograph* or echo-graph* or echotomograph* or echo-tomograph* or echosonograph* or echo sonograph*).tw,kw,kf. (26429)
- 80 exp Radiography/ (2673214)
- 81 (radiograph* or radiographic imag* or roentgenograph* or roentgeno-graph*).tw,kw,kf. (641257)
- 82 (fluoroscop* or fluoro-scop*).tw,kw,kf. (92502)
- 83 exp Radionuclide Imaging/ (450559)
- 84 ((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. (158337)
- 85 exp Tomography/ (3440225)
- 86 (tomograph* or tomo-graph*).tw,kw,kf. (1215340)
- 87 (CAT scan* or CT scan* or PET scan* or PET imag* or PT scan* or PT imag*).tw,kw,kf. (410366)
- 88 (SPECTCT or SPECT CT or "SPECT/CT").tw,kw,kf. (18339)
- 89 (magnetic resonance imag* or MRI or MRIs or fMRI or fMRIs or NMR imag* or chemical shift imag* or magnet#ation transfer contrast imag* or spin echo imag* or zeugmatograph* or zeugmato-graph*).tw,kw,kf. (1318003)
- 90 (cineradiograph* or cine-radiograph* or cinefluorograph* or cine-fluorograph* or radiocinematograph* or radio-cinematograph*).tw,kw,kf. (4214)
- 91 Nuclear Medicine/ (45722)
- 92 ((nuclear or atomic) adj1 medicine?).tw,kw,kf. (48570)
- 93 (nuclear adj1 radiolog*).tw,kw,kf. (1335)
- 94 (sialogra* or salivogra* or sialoscintigra* or sialo-scintigra*).tw,kw,kf. (3377)
- 95 (enteroclys* or enterogra*).tw,kw,kf. (6476)
- 96 (esophagra* or oesophagra* or esophagogra* or oesophagogra*).tw,kw,kf. (7318)
- 97 ((CT or virtual) adj colonoscop*).tw,kw,kf. (1952)
- 98 (contrast adj (study or studies or medium)).tw,kw,kf. (47498)
- 99 (cholangiopancreatogra* or cholangio-pancreatogra* or ERCP or MRCP).tw,kw,kf. (58422)
- 100 cholecystogra*.tw,kw,kf. (5494)
- 101 (angiograph* or angio-graph* or angiogram* or angio-gram*).tw,kw,kf. (587128)
- 102 (perfusion adj3 (image? or imaging)).tw,kw,kf. (43755)
- 103 or/61-102 [IMAGING] (8567189)
- 104 60 and 103 [UROLOGICAL CONDITIONS - IMAGING] (701034)
- 105 exp Animals/ not Humans/ (17609578)
- 106 104 not 105 [ANIMAL-ONLY REMOVED] (551695)
- 107 (case reports or case series 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. (6994805)
- 108 106 not 107 [OPINION PIECES, IRRELEVANT PUBLICATION TYPES REMOVED] (476025)
- 109 exp Guidelines as Topic/ (884386)
- 110 exp Clinical Protocols/ (309362)
- 111 Guideline.pt. (16563)
- 112 Practice Guideline.pt. (30420)
- 113 standards.fs. (767155)
- 114 Consensus Development Conference.pt. (12355)
- 115 Consensus Development Conference, NIH.pt. (801)
- 116 (consensus or guideline* or guidance? or standards or recommendation*).ti,kw,kf. (556900)
- 117 (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. (315429)
- 118 or/109-117 [GUIDELINE FILTER] (2280763)
- 119 108 and 118 [GUIDELINES] (14116)
- 120 limit 119 to yr="2018-current" (7584)
- 121 120 use medall [MEDLINE RECORDS] (881)
- 122 exp urinary tract disease/ (2645613)
- 123 ((urolog* or urinary or ureter* or urethra* or genitourinar* or bladder* or kidney* or renal) adj3 (disease? or disorder? or dysfunction* or problem*)).tw,kw,kf. (640025)
- 124 hematuria/ (75575)
- 125 (macroh?ematuria? or macro-h?ematuria? or microh?ematuria? or micro-h?ematuria?).tw,kw,kf. (4270)
- 126 h?ematuria?.tw,kw,kf. (67563)
- 127 ((visible discolo*r* or (visible adj3 blood) or (visible adj3 bleeding)) adj3 (urine or urinary)).tw,kw,kf. (33)
- 128 hypertension/ (1032541)
- 129 essential hypertension/ (35836)
- 130 ((essential or primary) adj3 hypertens*).tw,kw,kf. (84001)
- 131 kidney disease/ (234911)
- 132 exp kidney failure/ (713606)
- 133 ((kidney? or renal) adj3 (disease? or failure? or injur* or insufficien*).tw,kw,kf. (883678)
- 134 kidney colic/ (5019)
- 135 ((kidney? or renal or ureteral) adj3 colic?).tw,kw,kf. (7520)
- 136 nephrolithiasis/ (46956)
- 137 ((kidney? or nephron? or renal or staghorn) adj3 (calculi or calculos#s or calculus or calculogenes#s or calculo-genes#s or lithias#s or stone or stones)).tw,kw,kf. (53206)
- 138 (nephrolith* or nephro-lith* or renolithias#s or reno-lithias#s).tw,kw,kf. (33724)
- 139 ureter stone/ (13016)
- 140 (ureter* adj3 (calculi or calculos#s or calculus or calculogenes#s or calculo-genes#s or lithias#s or stone or stones)).tw,kw,kf. (21180)
- 141 ((bladder? or kidney? or renal or ureter*) adj3 lesion?).tw,kw,kf. (34332)
- 142 urinary tract/ and (obstruct* or block*).ti. (1724)
- 143 ureter obstruction/ (17454)
- 144 urethra obstruction/ (2310)

- 145 ((bladder? or kidney? or renal or ureter* or urinary or urine)
adj3 (obstruct* or block*)).tw,kw,kf. (26074)
- 146 (LUTO or LUTOs).tw,kw,kf. (343)
- 147 (UTO or UTOS).tw,kw,kf. (220)
- 148 pyelectasis/ (367)
- 149 (pyelectas#s or pelvietas#s).tw,kw,kf. (670)
- 150 hydronephrosis/ (42675)
- 151 (hydronephros* or hydro-nephros* or nephrohydros* or
nephro-hydros* or hydronephrotic kidney? or hydro-nephrotic
kidney?).tw,kw,kf. (36322)
- 152 dilated kidney?.tw,kw,kf. (100)
- 153 (pyonephros#s or pyo-nephros#s).tw,kw,kf. (1894)
- 154 exp urinary tract infection/ (201628)
- 155 urinary tract/ and infection?.ti. (6546)
- 156 ((bladder or kidney? or nephron? or renal or ureter* or
urinary or urine or urologic* or urogenitalis or uro-genitalis or
genitourinary) adj3 infection?).tw,kw,kf. (172967)
- 157 ((UTI or UTIs) and (urinary or urine or tract or tractus or
infection?)).tw,kw,kf. (39227)
- 158 exp pyelonephritis/ (48209)
- 159 (pyelonephrit* or pyelo-nephrit*).tw,kw,kf. (37727)
- 160 ((scrotal or scrotum or testic* or testis) adj3 (disease? or
disorder?)).tw,kw,kf. (4124)
- 161 epididymitis/ (7990)
- 162 epididymit#s.tw,kw,kf. (5947)
- 163 ((scrotal or scrotum or testic* or testis) adj3 (pain* or swell*
or swollen)).tw,kw,kf. (9222)
- 164 orchialgia*.tw,kw,kf. (424)
- 165 testis torsion/ (4876)
- 166 ((spermatic or testic* or testis) adj3 torsio*).tw,kw,kf. (7704)
- 167 ((scrotal or scrotum or testic* or testis) adj3 (lump or lumps
or mass or masses or pain*)).tw,kw,kf. (11422)
- 168 ((adrenal or renal) adj3 (adenoma? or incidentaloma? or
lump or lumps or mass or masses or tumor?r?)).tw,kw,kf. (94532)
- 169 exp urine incontinence/ (91951)
- 170 ((bladder or urinary or urine) adj3 (incontinen* or
leak*)).tw,kw,kf. (96252)
- 171 ((chronic* or constant* or excessiv* or frequent* or
incessant* or persistent*) adj3 (micturition or urinat*)).tw,kw,kf.
(2262)
- 172 (pollakiuria? or pollakisuria?).tw,kw,kf. (1967)
- 173 chronic prostatitis/ (9041)
- 174 (prostatit#s adj3 (chronic* or ceaseless* or constant* or
continual* or continuous* or incessant* or lingering or persist* or
recur* or relaps* or unremit*)).tw,kw,kf. (8545)
- 175 prostate specific antigen/ and (abnormal* or borderline or
elevated or high* or increas* or rise? or rising or suspicious or
"not normal" or threshold*).ti. (7690)
- 176 ((abnormal* or borderline or elevated or high* or increas*
or rise? or rising or suspicious or "not normal" or threshold*) adj3
PSA).tw,kw,kf. (23532)
- 177 ((abnormal* or borderline or elevated or high* or increas*
or rise? or rising or suspicious or "not normal" or threshold*) adj3
prostate-specific antigen?).tw,kw,kf. (8080)
- 178 ((greater than or more than or between) adj ("4" or four or
"5" or five or "6" or six or "7" or seven or "8" or eight or "9" or nine
or "10" or ten) adj5 (PSA or prostate-specific antigen?)).tw,kw,kf.
(1456)
- 179 pelvic floor disorder/ (5127)
- 180 ((pelvic or pelvis) adj3 (diaphragm* or floor or ground?)
adj10 (condition? or disorder? or dysfunction* or
problem*)).tw,kw,kf. (11001)
- 181 or/122-180 [CONDITIONS OF INTEREST] (3959440)
- 182 exp urography/ (81418)
- 183 (urograph* or urogram* or uro-graph* or uro-
gram*).tw,kw,kf. (25883)
- 184 (cystograph* or cystogram* or cysto-graph* or cysto-
gram*).tw,kw,kf. (7933)
- 185 (pyelograph* or pyelogram* or pyelo-graph* or pyelo-
gram*).tw,kw,kf. (12771)
- 186 (renograph* or renogram* or reno-graph* or reno-
gram*).tw,kw,kf. (9569)
- 187 (nephrograph* or nephrogram* or nephro-graph* or
nephro-gram*).tw,kw,kf. (3076)
- 188 (radionephrograph* or radio-nephrogram* or radio-nephro-
graph* or radio-nephro-gram*).tw,kw,kf. (224)
- 189 (urethrograph* or urethrogram* or urethro-graph* or
urethro-gram*).tw,kw,kf. (4637)
- 190 (sonourethrograph* or sonourethrogram* or sono-
urethrograph* or sono-urethrogram* or sono-urethro-graph* or
sono-urethro-gram*).tw,kw,kf. (168)
- 191 diagnostic imaging/ (288032)
- 192 (diagnos* adj3 (image? or imaging)).tw,kw,kf. (141298)
- 193 (x-ray* or xray*).tw,kw,kf. (982865)
- 194 computer assisted tomography/ (887831)
- 195 computer assisted diagnosis/ (67800)
- 196 exp three-dimensional imaging/ (216661)
- 197 ((3D or 3-D or 3-dimension* or three dimension*) adj
(image? or imaging)).tw,kw,kf. (49946)
- 198 exp echography/ (1479763)
- 199 (ultrasound* or ultrasonograph* or ultra-sonograph* or
ultrasonic* or ultra-sonic*).tw,kw,kf. (1147082)
- 200 (echograph* or echo-graph* or echotomograph* or echo-
tomograph* or echosonograph* or echo sonograph*).tw,kw,kf.
(26429)
- 201 exp radiography/ (2673214)
- 202 (radiograph* or radiographic imag* or roentgenograph* or
roentgeno-graph*).tw,kw,kf. (641257)
- 203 (fluoroscop* or fluoro-scop*).tw,kw,kf. (92502)
- 204 exp scintiscanning/ (215091)
- 205 ((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. (158337)
- 206 exp tomography/ (3440225)
- 207 (tomograph* or tomo-graph*).tw,kw,kf. (1215340)
- 208 (CAT scan* or CT scan* or PET scan* or PET imag* or PT
scan* or PT imag*).tw,kw,kf. (410366)
- 209 (SPECTCT or SPECT CT or "SPECT/CT").tw,kw,kf.
(18339)
- 210 (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. (1318003)
- 211 (cineradiograph* or cine-radiograph* or cinefluorograph* or
cine-fluorograph* or radiocinematograph* or radio-
cinematograph*).tw,kw,kf. (4214)
- 212 nuclear medicine/ (45722)
- 213 ((nuclear or atomic) adj1 medicine?).tw,kw,kf. (48570)
- 214 (nuclear adj1 radiolog*).tw,kw,kf. (1335)

Appendix 1. Search Strategies

215 (sialogra* or salvogra* or sialoscintigra* or sialo-
scintigra*).tw,kw,kf. (3377)
216 (enteroclys* or enterogra*).tw,kw,kf. (6476)
217 (esophagra* or oesophagra* or esophagogra* or
oesophagogra*).tw,kw,kf. (7318)
218 ((CT or virtual) adj colonoscop*).tw,kw,kf. (1952)
219 (contrast adj (study or studies or medium)).tw,kw,kf.
(47498)
220 (cholangiopancreatogra* or cholangio-pancreatogra* or
ERCP or MRCP).tw,kw,kf. (58422)
221 cholecystogra*.tw,kw,kf. (5494)
222 (angiograph* or angio-graph* or angiogram* or angio-
gram*).tw,kw,kf. (587128)
223 (perfusion adj3 (image? or imaging)).tw,kw,kf. (43755)
224 or/182-223 [IMAGING] (8436864)
225 181 and 224 [UROLOGICAL CONDITIONS - IMAGING]
(692888)
226 (exp animal/ or exp animal experimentation/ or exp animal
model/ or exp animal experiment/ or nonhuman/ or exp
vertebrate/) not (exp human/ or exp human experimentation/ or
exp human experiment/) (13185872)
227 225 not 226 [ANIMAL-ONLY REMOVED] (672383)
228 (conference abstract or editorial or letter).pt. (8726138)
229 case report/ or exp case study/ or directory/ (5442628)
230 227 not (228 or 229) [OPINION PIECES, IRRELEVANT
PUBLICATION TYPES REMOVED] (339049)
231 exp practice guideline/ (742056)
232 (consensus or guideline* or guidance? or standards or
recommendation*).ti,kw,kf. (556900)
233 (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. (315429)
234 or/231-233 [GUIDELINE FILTER] (1326229)
235 230 and 234 [GUIDELINES] (10991)
236 limit 235 to yr="2018-current" (4416)
237 236 use emczd [EMBASE RECORDS] (3929)
238 121 or 237 [BOTH DATABASES] (4810)
239 remove duplicates from 238 (4257) [TOTAL UNIQUE
RECORDS]
240 239 use medall [MEDLINE UNIQUE RECORDS] (873)
241 239 use emczd [EMBASE UNIQUE RECORDS] (3384)

Appendix 2. Evidence tables

GU01. Hematuria

GU01A. Gross hematuria

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; US: ultrasound	
CAR 2012 [18]	H01. HEMATURIA, MACRO- OR MICROSCOPIC - US: Indicated [B]: US is indicated after a thorough clinical workup. If microscopic hematuria persists and the diagnosis is still uncertain, US is indicated in patients 40 and under. However, US may miss some upper tract pathology, including some calculi. Bladder US may detect bladder tumours but cystoscopy is more sensitive. - CT: Indicated [B]: CT Urography is indicated in patients over the age of 40 with persistent hematuria.
ACR 2020 [19]	HEMATURIA ▪ Variant 4. Gross hematuria. Initial imaging.
RCR 2017 [20]	U19. MACROSCOPIC (VISIBLE) HAEMATURIA - US & cystoscopy [B] - CT (including low-dose CT kidneys, ureters and bladder (KUB) and CT urography) [B] - Intravenous urography (IVU) [B] - Magnetic resonance urography (MRU) [B]

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

GU01A. Microhematuria

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MR: magnetic resonance; US: ultrasound	
CAR 2012 [18]	H01. HEMATURIA, MACRO- OR MICROSCOPIC - US: Indicated [B]: US is indicated after a thorough clinical workup. If microscopic hematuria persists and the diagnosis is still uncertain, US is indicated in patients 40 and under. However, US may miss some upper tract pathology, including some calculi. Bladder US may detect bladder tumours but cystoscopy is more sensitive. - CT: Indicated [B]: CT Urography is indicated in patients over the age of 40 with persistent hematuria.
ACR 2020 [19]	HEMATURIA ▪ Variant 1. Microhematuria. No risk factors, or history of recent vigorous exercise, or presence of infection, or viral illness, or present or recent menstruation. Initial imaging. ▪ Variant 2. Microhematuria. Patients with risk factors, without any of the following: history of recent vigorous exercise, or presence of infection or viral illness, or present or recent menstruation, or renal parenchymal disease. Initial imaging. ▪ Variant 3. Microhematuria. Pregnant patient. Initial imaging.
AUA/SUFU 2020 [21]	MICROHEMATURIA - Cystoscopy - Renal ultrasound - Upper tract imaging - Axial upper tract imaging - Multiphasic CT urography - MR urography - Retrograde pyelography - White light cystoscopy
RCR 2017 [20]	U18. MICROSCOPIC (NON-VISIBLE) HAEMATURIA - US [B] - CT [B]

Abbreviations: ACR: American College of Radiology; AUA/SUFU: American Urological Association/Society of Urodynamics, Female Pelvic Medicine, and Urogenital Reconstruction; CAR: Canadian Association of Radiologists; RCR: Royal College of Radiologists

GU02. Hypertension, in absence of renal disease (or failure)

GU02A. Responsive to medication

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CAR 2012 [18]	H02. HYPERTENSION WITHOUT EVIDENCE OF RENAL DISEASE, RESPONSIVE TO MEDICATION - All imaging: Not indicated [B]: Imaging is not indicated if there is no evidence of renal disease.
Hypertension Canada 2020: Hypertension in Adults and Children [22]	ROLE OF ECHOCARDIOGRAPHY - Routine echocardiographic (Grade D) - Echocardiogram for assessment of left ventricular hypertrophy (Grade C) - Echocardiographic assessment of left ventricular mass (Grade D) - Echocardiogram, nuclear imaging (Grade D)

Abbreviations: CAR: Canadian Association of Radiologists

GU02B. Unresponsive to medication

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CTA: computed tomography angiography; DSA: digital subtraction angiography; MRA: magnetic resonance angiography; NM: nuclear medicine; US: ultrasound	
CAR 2012 [18]	H03. HYPERTENSION: IN PATIENTS UNRESPONSIVE TO MEDICATION - NM: Indicated [B]: Captopril renography is best to check for functionally significant renal artery stenosis, if interventional procedure or surgery is contemplated. - CTA: Specialized investigation [B]: CTA is the imaging study of choice for visualizing the renal arteries. - MRA: Specialized investigation [B]: MRA may be performed where CTA is contraindicated. - US: Specialized investigation [B]: Doppler US can be used if special expertise is available.
Hypertension Canada 2020: Hypertension in Adults and Children [22]	Role of echocardiography - Echocardiogram for assessment of left ventricular hypertrophy (Grade C) - Echocardiographic assessment of left ventricular mass (Grade D) - Echocardiogram, nuclear imaging (Grade D)
RCR 2017 [20]	U01. HYPERTENSION IN THE YOUNG ADULT OR IN PATIENTS UNRESPONSIVE TO MEDICATION: SUSPECTED RENOVASCULAR HYPERTENSION (see also U02, U13) - MRA [A] - CTA [A] - US [B] - NM (MAG3 precaptopril and post-captopril) [B] - DSA angiography [B]

Abbreviations: CAR: Canadian Association of Radiologists; RCR: Royal College of Radiologists

GU03. Renal disease (or failure)

GU03A. Acute kidney injury (or failure)

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound; XR: radiography	
CAR 2012 [18]	H04. RENAL FAILURE - Renal US: Indicated [B]: US is the best initial imaging modality in patients with renal failure to determine if there is an obstructive cause.
ACR 2021 [23]	RENAL FAILURE ▪ Variant 1. Renal failure. Acute kidney injury (AKI), unspecified. Initial imaging. <i>Did not extract: Variant 3. Renal failure. Kidney disease of unknown duration. Initial imaging.; Variant 4. Renal failure. Neurogenic bladder. Initial imaging.</i>
NICE 2019 (NG148) [24]	Acute Kidney Injury ▪ Recommendations 1.4.4, 1.4.5, and 1.4.6: Ultrasound
RCR 2017 [20]	U02. ACUTE AND CHRONIC KIDNEY INJURY (RENAL FAILURE) (see also U01) - US [B] - NM (MAG3/DMSA) [B] - CT [B] - MRI [C] - Abdominal XR [B]

Abbreviations: ACR: American College of Radiology; CAR: Canadian Association of Radiologists; NICE: National Institute for Health and Care Excellence; RCR: Royal College of Radiologists

GU03B. Chronic kidney disease

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound; XR: radiography	
CAR 2012 [18]	H04. RENAL FAILURE - Renal US: Indicated [B]: US is the best initial imaging modality in patients with renal failure to determine if there is an obstructive cause.
ACR 2021 [23]	RENAL FAILURE ▪ Variant 2. Renal failure. Chronic kidney disease (CKD). Initial imaging. <i>Did not extract: Variant 3. Renal failure. Kidney disease of unknown duration. Initial imaging.; Variant 4. Renal failure. Neurogenic bladder. Initial imaging.</i>
RCR 2017 [20]	U02. ACUTE AND CHRONIC KIDNEY INJURY (RENAL FAILURE) (see also U01) - US [B] - NM (MAG3/DMSA): [B] - CT [B] - MRI [C] - Abdominal XR [B]

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

GU04. Renal colic

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; US: ultrasound; XR: radiography	
CAR 2012 [18]	H05. RENAL COLIC - CT: Indicated [B]: Low dose unenhanced CT is the preferred imaging modality for the detection of urinary tract calculi. - US /Abdominal XR: Indicated only in specific circumstances [B]: Combined US and abdominal XR may be used where CT is not available or under special circumstances such as pregnancy to reduce radiation exposure. US and abdominal XR are less sensitive than unenhanced CT.
ACEP 2019: Renal colic [25]	- US: May provide adequate diagnostic information. - CT: When CT is needed, it should be low dose.
ACR 2023 [26]	UROLITHIASIS ▪ Variant 1. Acute onset flank pain. Suspicion of stone disease. No history or remote history of stone disease. Initial imaging. ▪ Variant 3. Pregnant patient. Acute onset flank pain. Suspicion of stone disease. Initial or follow-up imaging. ▪ Variant 4. Acute onset flank pain. Suspicion of stone disease. CT without contrast is inconclusive for the presence of stones. Next imaging study. <i>Did not extract : Variant 2. Acute onset flank pain in patient with known current stone disease, diagnosed on recent imaging. Recurrent symptoms of stone disease. Follow-up imaging.</i>
CUA 2021 [27,28]	URETERAL CALCULI - Ultrasonography with Kidney Ureter Bladder (KUB) X-ray, CT scans
EAU 2023 [29]	UROLITHIASIS - US - Kidney Ureter Bladder (KUB) (Strength: Strong) - Non-contrast CT (Strength: Strong) - Contrast CT (Strength: Strong) Pregnant patients - US (Strength: Strong) - MRI (Strength: Strong) - Low-dose CT (Strength: Strong)
RCR 2017 [20]	U04. SUSPECTED URETERIC COLIC (see also U07, U10) - CT [A] - US & abdominal XR [B] - Magnetic resonance urography (MRU) [C] - Intravenous urography (IVU) [B]

Abbreviations: ACEP: American College of Emergency Physicians; ACR: American College of Radiology; CAR: Canadian Association of Radiologists; CUA: Canadian Urological Association; EAU: European Association of Urology; RCR: Royal College of Radiologists

GU05. Renal calculi in absence of acute colic

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; NM: nuclear medicine; US: ultrasound; XR: radiography	
CAR 2012 [18]	H06. RENAL CALCULI IN ABSENCE OF ACUTE COLIC - Abdominal XR: Indicated [B]: If follow up of known renal stones is required, abdominal XR may be sufficient for those visible on XR. - CT: Indicated [B]: If XR does not show a calculus, CT is indicated if there is strong clinical suspicion. - US: Indicated only in specific circumstances [B]: US may be used if CT is not available. US is less sensitive than either abdominal XR or CT for detecting urinary tract calculi. - NM: Indicated only in specific circumstances [B]: Nuclear Medicine can be used to assess the function of a kidney that may be damaged by chronic renal calculi.
NICE 2019 [30]	Renal and Ureteric Stones - 1.1.1 low-dose non-contrast CT, ultrasound - 1.1.2 ultrasound - 1.1.3 low-dose non-contrast CT
RCR 2017 [20]	U05. RENAL CALCULI IN ABSENCE OF ACUTE COLIC - Abdominal XR [B] - CT [A] - US [B]

Abbreviations: CAR: Canadian Association of Radiologists; NICE: National Institute for Health and Care Excellence; RCR: Royal College of Radiologists

GU06. Renal lesion

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound; XR: radiography	
CAR 2012 [18]	H07. RENAL MASS - US: Indicated [B]: US is indicated as an initial imaging modality for a suspected renal mass. - CT: Indicated [B]: CT without and with contrast enhancement is indicated as the primary imaging modality for evaluating solid renal masses. - MRI: Specialized investigation [B]: MRI may help to assess a renal mass not adequately characterized by CT or if CT is contraindicated, e.g., known allergy to CT contrast. - NM: Indicated only in specific circumstances [B]: NM can be used to assess renal function prior to surgery for renal mass.
ACR 2020 [31]	INDETERMINATE RENAL MASS ▪ Variant 1. Indeterminate renal mass. No contraindication to either iodinated CT contrast or gadolinium-based MR intravenous contrast. Initial imaging. ▪ Variant 2. Indeterminate renal mass. Contraindication to both iodinated CT and gadolinium-based MR intravenous contrast. Initial imaging. ▪ Variant 3. Indeterminate renal mass. Contraindication only to iodinated CT intravenous contrast. Initial imaging.
CUA 2022 [32,33]	SMALL RENAL MASSES - multiphasic, contrast-enhanced, abdominal computed tomography (CT) or magnetic resonance imaging (MRI) scan (Clinical principle) - baseline chest XR (Conditional recommendation, low certainty in evidence of effects)
CUA 2023 [34]	CYSTIC RENAL LESION - contrast-enhanced, cross-sectional imaging (Strong recommendation, moderate certainty in evidence of effects)
RCR 2017 [20]	U06. CLINICALLY SUSPECTED RENAL MASS - US [B] - CT [B] - MRI [B] - US/CT-guided biopsy [B]

Abbreviations: ACR: American College of Radiology; CAR: Canadian Association of Radiologists; CUA: Canadian Urological Association; RCR: Royal College of Radiologists

GU07. Urinary tract obstruction

GU07A. Upper (pelviectasis, hydronephrosis)

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound	
CAR 2012 [18]	H08. URINARY TRACT OBSTRUCTION - US: Indicated [B]: Ultrasound is the modality of choice for the initial investigation. - NM: Specialized investigation [B]: A diuretic renal scan may be useful to confirm the presence and level of a urinary tract obstruction. - CT: Indicated only in specific circumstances [B]: CT may be required for further investigation if an obstruction is identified.
RCR 2017 [20]	U07. UPPER URINARY TRACT OBSTRUCTION: DIAGNOSIS AND CAUSES (see also U04, U10) - US [B] - CT [B] - NM (MAG3) [A] - MRI [B] - Intravenous urography (IVU) [B]

Abbreviations: CAR: Canadian Association of Radiologists; RCR: Royal College of Radiologists

GU07B. Lower (lower urinary tract syndrome)

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound	
CAR 2012 [18]	H08. URINARY TRACT OBSTRUCTION - US: Indicated [B]: Ultrasound is the modality of choice for the initial investigation. - NM: Specialized investigation [B]: A diuretic renal scan may be useful to confirm the presence and level of a urinary tract obstruction. - CT: Indicated only in specific circumstances [B]: CT may be required for further investigation if an obstruction is identified.
CUA 2020 [35]	Male Urethral Stricture - Cystoscopy (Conditional recommendation, low certainty in evidence of effects) - Retrograde urethrography (Conditional recommendation, low certainty in evidence of effects) - Magnetic resonance imaging (Conditional recommendation, low certainty in evidence of effects)
EAU 2021 [36]	Urethral Stricture - Retrograde urethrography - Voiding cystourethrography - Cystourethroscopy - Antegrade cystoscopy - MRI urethrography
RCR 2017 [20]	U10. LOWER URINARY TRACT SYMPTOMS (LUTS) (see also U04, U07) - US [B] - MRI [B] - Urodynamics [B]
Urethral Stricture Disease Guideline 2023 [37]	Diagnosis/Initial Management - Ultrasound - Urethro-cystoscopy, retrograde urethrography, voiding cystourethrography, ultrasound urethrography

Abbreviations: CAR: Canadian Association of Radiologists; CUA: Canadian Urological Association; EAU: European Association of Urology; RCR: Royal College of Radiologists

GU08. Urinary tract infection

GU08A. Acute

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound	
CAR 2012 [18]	H09. URINARY TRACT INFECTION IN ADULTS - US: Indicated only in specific circumstances [B]: Imaging is not indicated initially for adults with a urinary tract infection, but it is indicated (1) if infection does not resolve with appropriate antibiotic therapy and (2) in men following one proven UTI or in women with a proven recurrence of UTI. - CT: Specialized investigation [B]: CT may be ordered if a severe infection does not respond to treatment, or if an abscess or other complication is suspected.
German Guideline 2018 [38]	URINARY TRACT INFECTION - Routine cystoscopy (B, IIb)
RCR 2017 [20]	U08. URINARY TRACT INFECTION IN ADULTS - US +/- Abdominal XR [B] - CT [B] - MRI [B] - NM (DMSA) [C] - Intravenous urography (IVU) [C]

Abbreviations: CAR: Canadian Association of Radiologists; RCR: Royal College of Radiologists

GU08B. Post-treatment failure (pyelonephritis)

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
	CT: computed tomography; US: ultrasound
CAR 2012 [18]	H09. URINARY TRACT INFECTION IN ADULTS - US: Indicated only in specific circumstances [B]: Imaging is not indicated initially for adults with a urinary tract infection, but it is indicated (1) if infection does not resolve with appropriate antibiotic therapy and (2) in men following one proven UTI or in women with a proven recurrence of UTI. - CT: Specialized investigation [B]: CT may be ordered if a severe infection does not respond to treatment, or if an abscess or other complication is suspected.
ACR 2022 [39]	ACUTE PYELONEPHRITIS ▪ Variant 1. Suspected acute pyelonephritis. First-time presentation. Uncomplicated patient (eg, no history of pyelonephritis, diabetes, immune compromise, history of stones or renal obstruction, prior renal surgery, advanced age, vesicoureteral reflux, lack of response to therapy, or pregnancy). Initial imaging. ▪ Variant 2. Suspected acute pyelonephritis. Complicated patient (eg, recurrent pyelonephritis, diabetes, immune compromise, advanced age, vesicoureteral reflux, or lack of response to initial therapy). Initial imaging. ▪ Variant 3. Suspected acute pyelonephritis. History of renal stones or renal obstruction. Initial imaging. ▪ Variant 4. Suspected acute pyelonephritis. Pregnant patient with no other complications (eg, no history of diabetes, immune compromise, history of stones or renal obstruction, prior renal surgery, vesicoureteral reflux, or lack of response to therapy). Initial imaging. <i>Did not extract Variant 5. Suspected acute pyelonephritis. History of pelvic renal transplant with native kidneys in situ and no other complications (eg, no history of pyelonephritis, diabetes, history of stones or renal obstruction, prior renal surgery, advanced age, vesicoureteral reflux, lack of response to therapy, or pregnancy). Initial imaging.</i>

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

GU08C. Chronic and recurrent bladder infections

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; US: ultrasound	
CAR 2012 [18]	H09. URINARY TRACT INFECTION IN ADULTS - US: Indicated only in specific circumstances [B]: Imaging is not indicated initially for adults with a urinary tract infection, but it is indicated (1) if infection does not resolve with appropriate antibiotic therapy and (2) in men following one proven UTI or in women with a proven recurrence of UTI. - CT: Specialized investigation [B]: CT may be ordered if a severe infection does not respond to treatment, or if an abscess or other complication is suspected.
ACR 2020 [40]	RECURRENT LOWER URINARY TRACT INFECTIONS IN FEMALES ▪ Variant 1. Recurrent lower urinary tract infections in a female. Uncomplicated with no underlying risk factors. ▪ Variant 2. Recurrent lower urinary tract infections in a female. Complicated, or patients who are nonresponders to conventional therapy, develop frequent reinfections or relapses, or have known underlying risk factors.
AUA 2022 [41]	Recurrent Uncomplicated Urinary Tract Infections - Cystoscopy and upper tract imaging

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

GU09. Scrotal mass or pain, including testicular torsion and epididymitis

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
MRI: magnetic resonance imaging; NM: nuclear medicine; US: ultrasound	
CAR 2012 [18]	H11. SCROTAL MASS OR PAIN - US: Indicated [B]: US is the best imaging modality for evaluating scrotal swelling and/or scrotal pain. US can differentiate testicular from extra-testicular lesions. Symptoms requires ENT, neurological, or neurosurgical expertise. H12. TESTICULAR TORSION - US with Doppler: Indicated [B]: Testicular torsion can be diagnosed clinically. If imaging is required US is the best modality, and must be performed emergently. - NM: Indicated only in specific circumstances [B]: NM can be used when US is not available or inconclusive.
ACR 2022 [42]	NEWLY DIAGNOSED PALPABLE SCROTAL ABNORMALITY ▪ Variant 1. Newly diagnosed palpable scrotal abnormality. History of trauma or infection. Initial imaging. ▪ Variant 2. Newly diagnosed palpable scrotal abnormality. No history of trauma or infection. Initial imaging.
ACR 2019 [43]	ACUTE ONSET OF SCROTAL PAIN – WITHOUT TRAUMA, WITHOUT ANTECEDENT MASS ▪ Variant 1. Adult or child. Acute onset of scrotal pain. Without trauma, without antecedent mass. Initial imaging.
RCR 2017 [20]	U11. SCROTAL MASS +/- PAIN (see also U12) - US [B] - MRI [B] U12. ACUTE SCROTAL PAIN: SUSPECTED TESTICULAR TORSION (see also U11) - US [B]

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

GU10. Adrenal mass

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; NM: nuclear medicine; PET-CT: positron emission tomography computed tomography; US: ultrasound	
CAR 2012 [18]	This scenario was not covered in the 2012 CAR guideline.
ACR 2021 [44]	Adrenal Mass Evaluation - Variant 1. Indeterminate adrenal mass, less than 1 cm on initial imaging. No diagnostic benign imaging features. No history of malignancy. - Variant 2. Indeterminate adrenal mass, 1 to 2 cm on initial imaging. No diagnostic benign imaging features. No history of malignancy. Follow-up imaging in 12 months. - Variant 3. Indeterminate adrenal mass, greater than 2 cm and less than 4 cm on initial imaging. No diagnostic benign imaging features. No history of malignancy. Adrenal specific imaging. - Variant 4. Indeterminate adrenal mass, greater than or equal to 4 cm on initial imaging. No diagnostic benign imaging features. No history of malignancy. Adrenal specific imaging. - Variant 5. Adrenal mass, less than 4 cm on initial imaging. No diagnostic benign imaging features. History of malignancy. Adrenal specific imaging. - Variant 6. Adrenal mass, greater than or equal to 4 cm on initial imaging. No diagnostic benign imaging features. History of malignancy. Adrenal specific imaging. <i>Did not extract: Biopsy recommendations.</i>
CUA 2023 [45]	INCIDENTALLY DISCOVERED RENAL MASSES - non-contrast CT - contrast-enhanced washout CT - chemical-shift MRI
NCCN 2021 [46]	NEUROENDOCRINE AND ADRENAL TUMORS - CT, or MRI with or without contrast
RCR 2017 [20]	U13. SUSPECTED FUNCTIONING ADRENAL MEDULLARY TUMOUR (see also U01) - MRI/CT [B] - NM – MIBG, SRS [B] - PET-CT [B] - US [B] U17. INCIDENTALLY DETECTED NON-FUNCTIONING ADRENAL MASS - MRI/CT [B] - PET-CT [B] - US [C]

Abbreviations: ACR: American College of Radiology; CAR: Canadian Association of Radiologists; CUA: Canadian Urological Association; NCCN: National Comprehensive Cancer Network; RCR: Royal College of Radiologists

GU11. Incontinence, urgency, and frequency

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; US: ultrasound; XR: radiography	
CAR 2012 [18]	This scenario was not covered in the 2012 CAR guideline.
EAU 2020 [47]	Urinary incontinence - US
NICE 2019 [48]	Urinary incontinence - MRI - CT - XR - US

Abbreviations: ACR: American College of Radiology; CAR: Canadian Association of Radiologists; NICE: National Institute for Health and Care Excellence; RCR: Royal College of Radiologists

GU12. Chronic pelvic pain

GU12A. Chronic pelvic pain in females

See [CAR Obstetrics and Gynecology Diagnostic Imaging Referral Guideline](#) [49] (see **OG09. Evaluation of chronic pelvic pain of presumed gynecologic origin**).

GU12B. Chronic pelvic pain in males

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; US: ultrasound	
CAR 2012 [18]	K50. PROSTATITIS: MALE CHRONIC PELVIC PAIN SYNDROME [Cancer section] - Pelvic US: Special indication [B]: Imaging generally not indicated unless patients refractory to treatment. - Transrectal US: Special indication [B]: TRUS can be used to evaluate for and aspirate prostate abscesses in patients refractory to treatment. - CT: Special indication [B]: Rarely useful in patients refractory to treatment. - MRI: Not indicated [B]: Rarely useful in patients refractory to treatment.

Abbreviations: CAR: Canadian Association of Radiologists

GU13. Elevated PSA

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
MRI: magnetic resonance imaging; US: ultrasound	
CAR 2012 [18]	This scenario was not covered in the 2012 CAR guideline.
RCR 2017 [20]	U20. ASYMPTOMATIC MEN WITH ELEVATED PSA - MRI [B] - Transrectal US (TRUS) and biopsy [B]

Abbreviations: CAR: Canadian Association of Radiologists; RCR: Royal College of Radiologists

GU14. Male infertility

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CT: computed tomography; MRI: magnetic resonance imaging; US: ultrasound	
CAR 2012 [18]	K49. MALE INFERTILITY [Cancer section] - Pelvic US: Special indication [C]: If pelvic mass suspected. - Transrectal US: Special indication [B]: For evaluation of seminal ducts in the region of the prostate when indicated by clinical investigation. Rarely may be helpful to aspirate sperm from seminal ducts. - Scrotal US: Indicated [B]: To evaluate for varicocele and testicular morphology. - MRI: Special indication [B]: In occasional patients, to assess intraabdominal segments of seminal ducts. - CT: Not indicated [C]: No role at this time.

Abbreviations: CAR: Canadian Association of Radiologists

See [CAR Obstetrics and Gynecology Diagnostic Imaging Referral Guideline](#) [49] (see **OG06. Infertility assessment, recommendation #3**).

GU15. Pelvic floor

Guideline Group	Imaging modality addressed in guideline recommendations and/or clinical scenarios covered (Note: When published recommendations will not included, except for the 2012 CAR guideline)
CAR 2012 [18]	This scenario was not covered in the 2012 CAR guideline.
ACR 2022 [50]	PELVIC FLOOR DYSFUNCTION IN FEMALES ▪ Variant 1. Vaginal protrusion or bulge, or clinically suspected pelvic organ prolapse. Initial imaging. ▪ Variant 2. Female. Urinary dysfunction (involuntary leakage of urine, or frequent urination, or urgency, or straining to void, or incomplete voiding, or splinting, or digital maneuvers to void). Initial imaging. ▪ Variant 3. Female. Defecatory dysfunction (incontinence of stool or liquid or gas, or straining during defecation, or difficulty initiating defecation, or incomplete evacuation, or splinting or digital maneuvers to defecate). Initial imaging. <i>Did not extract: Variant 4. Female. Follow-up imaging after pelvic floor surgery. Subacute or chronic complications other than recurrent pelvic floor dysfunction. Initial imaging.</i>

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

Appendix 3. 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 (%)	
ACR 2020 [19] Hematuria	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	1	2	1	5 (42)	3	3	6 (100)	Moderate
RCR 2017 [20]	3	3	3	9 (100)	3	3	3	9 (100)	3	3	3	3	3	1	3	1	20 (83)	3	3	3	9 (100)	3	2	3	1	9 (75)	2	2	4 (67)	High
AUA/SUFU 2020 [21]	3	1	3	7 (78)	3	3	3	9 (100)	3	3	3	3	3	3	3	3	24 (100)	3	3	3	9 (100)	3	3	3	1	10 (83)	3	3	6 (100)	High
Hypertension Can. 2020 [22]	3	1	3	7 (78)	3	1	3	7 (78)	3	1	3	3	3	3	3	1	20 (83)	3	3	2	8 (89)	1	1	1	3	6 (50)	3	3	6 (100)	High
ACR 2021 [23] Renal failure	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	2	2	1	6 (50)	3	3	6 (100)	Moderate
NICE (NG148) 2019 [24]	1	3	3	7 (78)	3	3	3	9 (100)	3	3	3	3	3	3	1	1	20 (83)	2	1	2	5 (56)	1	1	3	1	6 (50)	3	3	6 (100)	High
ACEP 2019 [25]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	3	3	3	1	22 (92)	3	3	2	8 (89)	1	1	1	1	4 (33)	3	3	6 (100)	Moderate
ACR 2023 [26] Urolithiasis	1	1	3	5 (56)	3	1	3	7 (78)	3	1	3	1	3	3	3	1	18 (75)	3	3	3	9 (100)	1	3	2	1	7 (58)	1	3	4 (67)	Moderate
CUA 2021 [27,28]	3	1	3	7 (78)	3	1	3	7 (78)	3	1	3	3	3	3	3	1	20 (83)	3	3	3	9 (100)	1	1	2	1	5 (42)	3	3	6 (100)	Moderate
EAU 2023 [29]	3	1	3	7 (78)	3	3	3	9 (100)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	3	1	3	1	8 (67)	3	3	6 (100)	High
NICE (NG118) 2019 [30]	1	3	3	7 (78)	3	3	3	9 (100)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	1	1	3	1	6 (50)	3	3	6 (100)	High
ACR 2020 [31] Renal mass	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	2	2	1	6 (50)	3	3	6 (100)	Moderate
CUA 2022 [32,33]	3	1	3	7 (78)	3	3	1	7 (78)	3	3	3	3	3	3	3	1	22 (92)	3	3	3	9 (100)	2	1	3	1	7 (58)	3	3	6 (100)	High
CUA 2023 [34]	3	1	3	7 (78)	3	1	3	7 (78)	3	3	3	3	1	3	3	1	20 (83)	3	1	3	7 (78)	1	1	1	3	6 (50)	1	3	4 (67)	Moderate
CUA 2020 [35]	3	3	3	9 (100)	2	1	3	6 (67)	3	1	3	3	3	3	3	1	20 (83)	3	2	3	8 (89)	3	1	3	1	8 (67)	1	3	4 (67)	High
EAU 2021 [36]	3	2	1	6 (67)	3	3	3	9 (100)	3	1	3	3	3	3	3	2	21 (88)	3	3	3	9 (100)	3	3	3	2	11 (92)	3	3	6 (100)	High
Wessells 2023 [37]	3	1	3	7 (78)	3	1	3	7 (78)	3	3	3	3	1	3	3	1	20 (83)	3	3	3	9 (100)	1	2	1	1	5 (42)	3	3	6 (100)	High
German Gdln 2018 [38]	3	1	3	7 (78)	3	3	3	9 (100)	3	3	3	3	2	3	3	1	21 (88)	2	3	1	6 (67)	1	1	1	1	4 (33)	1	3	4 (67)	Moderate
ACR 2022 [39] Pyelonephritis	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	2	2	1	6 (50)	3	3	6 (100)	High

Appendix 3: 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 (%)	
ACR 2020 [40] Lower UTI	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	2	1	2	1	6 (50)	3	3	6 (100)	Moderate
AUA/CUA/SUFU 2022 [41]	3	1	3	7 (78)	3	3	2	8 (89)	3	3	3	3	3	3	3	1	22 (92)	3	1	3	7 (78)	1	1	1	1	4 (33)	3	3	6 (100)	Moderate
ACR 2022 [42] Scrotal abnor.	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	2	1	2	1	6 (50)	3	3	6 (100)	High
ACR 2019 [43] Scrotal pain	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	1	2	1	5 (42)	3	3	6 (100)	Moderate
Mody (2021) [44]	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	1	1	2	1	5 (42)	3	3	6 (100)	Moderate
CUA 2023 [45]	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)	2	3	3	1	9 (75)	1	1	2 (33)	Moderate
NCCN 2021 [46] Tumours	3	1	3	7 (78)	3	3	3	9 (100)	3	1	3	3	3	3	1	1	18 (75)	3	3	1	7 (78)	1	3	1	1	6 (50)	1	3	4 (67)	Moderate
EAU 2020 [47]	3	3	3	9 (100)	3	1	3	7 (78)	3	3	3	3	3	3	3	2	23 (96)	3	1	3	7 (78)	1	1	3	1	6 (50)	3	3	6 (100)	High
NICE (NG123) 2019 [48]	2	3	2	7 (78)	3	1	3	7 (78)	3	3	3	3	3	3	3	3	24 (100)	3	1	3	7 (78)	1	1	1	1	4 (33)	3	3	6 (100)	High
ACR 2022 [50] Pelvic floor	2	3	3	8 (89)	3	1	3	7 (78)	3	2	3	2	3	3	3	1	20 (83)	3	3	3	9 (100)	2	1	2	1	6 (50)	3	3	6 (100)	High

Abbreviations: **ACR:** American College of Radiology; **AUA/SUFU:** American Urology Association/ Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction; **CAR:** Canadian Association of Radiologists; **CUA:** Canadian Urological Association; **EAU:** European Association of Urology; **NCCN:** National Comprehensive Cancer Network; **NICE:** National Institute for Health and Clinical Excellence; **RCR:** Royal College of Radiologists