

## Supplementary Material File 1: Full search strategies

The terms used in all search strategies build upon those used in the searches to inform a previous systematic review on SIRT therapies for hepatocellular carcinoma:

Walton M, Wade R, Claxton L, Sharif-Hurst S, Harden M, Patel J, et al. Selective internal radiation therapies for unresectable early-, intermediate- or advanced-stage hepatocellular carcinoma: systematic review, network meta-analysis and economic evaluation. *Health Technol Assess* 2020;24(48)

### 1.1: Search strategies for identification of RCTs

The following databases were searched:

- MEDLINE ALL (Ovid)
- Embase (Ovid)
- Cochrane Central Register of Controlled Trials (CENTRAL) (Wiley)
- Science Citation Index (Web of Science)
- Cochrane Database of Systematic Reviews (CDSR) (Wiley)
- Database of Abstracts of Reviews of Effects (DARE) (CRD databases)
- International Health Technology Assessment database
- Epistemonikos
- International Prospective Register of Systematic Reviews (PROSPERO)
- ClinicalTrials.gov
- European Union Clinical Trials Register

Search strategies for each database can be found below.

#### MEDLINE ALL

(includes: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range: 1946 to 1<sup>st</sup> February, 2021

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 2303

The MEDLINE strategy below includes a search filter to limit retrieval to RCTs using the Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity-maximizing version (2008 revision); Ovid format.

Lefebvre C, Glanville J, Briscoe S, Littlewood A, Marshall C, Metzendorf M-I, Noel-Storr A, Rader T, Shokraneh F, Thomas J, Wieland LS. Technical Supplement to Chapter 4: Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, Cumpston MS, Li T, Page MJ, Welch VA (eds). *Cochrane Handbook for Systematic Reviews of Interventions* Version 6.2 (updated February 2021). Cochrane, 2021. Available from: [www.training.cochrane.org/handbook](http://www.training.cochrane.org/handbook).

- 1 Carcinoma, Hepatocellular/ (86979)
- 2 Liver Neoplasms/ (151355)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (150762)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (4183)

5 hepatoma\$.ti,ab. (28611)  
6 HCC.ti,ab. (58929)  
7 or/1-6 (234592)  
8 Neoplasm Staging/ (177611)  
9 (small\$ or early or earlstage?).ti,ab. (3163695)  
10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (578)  
11 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (77157)  
12 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (4783)  
13 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (124495)  
14 (eHCC or sHCC).ti,ab. (251)  
15 or/8-13 (3424647)  
16 14 or (7 and 15) (50618)  
17 Radiofrequency Ablation/ (1071)  
18 Catheter Ablation/ (33067)  
19 Radiofrequency Therapy/ (1098)  
20 ((radiofrequenc\$ or radio frequenc\$) adj3 ablat\$).ti,ab. (20597)  
21 RFA.ti,ab. (6924)  
22 RF ablation.ti,ab. (2496)  
23 RTA.ti,ab. (2494)  
24 RFTA.ti,ab. (62)  
25 or/17-24 (45285)  
26 16 and 25 (3125)  
27 Microwaves/ (17445)  
28 (microwave\$ or micro wave\$).ti,ab. (38436)  
29 (MWA or MCT or PMCT or PMWA).ti,ab. (7692)  
30 or/27-29 (47890)  
31 16 and 30 (715)  
32 Laser Therapy/ (38202)  
33 (laser\$ adj2 ablat\$).ti,ab. (10008)  
34 LTA.ti,ab. (3499)  
35 or/32-34 (48883)  
36 16 and 35 (142)  
37 High-Intensity Focused Ultrasound Ablation/ (1728)  
38 Ultrasonic Therapy/ (9714)  
39 High intensity focus?ed ultrasound.ti,ab. (3137)  
40 HIFU.ti,ab. (2449)  
41 or/37-40 (12933)  
42 16 and 41 (132)  
43 Cryosurgery/ (13169)  
44 Cryotherapy/ (5214)  
45 (cryoablat\$ or cryo-ablat\$ or cryotherap\$ or cryo-therap\$ or cryosurg\$ or cryo-surg\$).ti,ab. (14455)  
46 or/43-45 (23464)  
47 16 and 46 (317)  
48 Ethanol/ (88324)  
49 ((alcohol or ethanol) adj2 (inject\$ or ablat\$)).ti,ab. (5254)  
50 (PEI or PEIT).ti,ab. (8408)  
51 or/48-50 (98037)  
52 16 and 51 (975)  
53 Acetic Acid/ (10269)  
54 Acetates/ (39925)  
55 (acetic acid adj2 (inject\$ or ablat\$)).ti,ab. (408)  
56 PAI.ti,ab. (14810)

57 PAAI.ti,ab. (19)  
58 or/53-57 (62615)  
59 16 and 58 (132)  
60 Electroporation/ (8033)  
61 electroporation.ti,ab. (10705)  
62 IRE.ti,ab. (2151)  
63 or/60-62 (15275)  
64 16 and 63 (122)  
65 ((stereotactic or stereotaxic) adj3 ablat\$.ti,ab. (1271)  
66 ((stereotactic or stereotaxic) adj3 (radiotherap\$ or radiation)).ti,ab. (9612)  
67 (SABR or SABRT).ti,ab. (803)  
68 SBRT.ti,ab. (4238)  
69 SABER.ti,ab. (356)  
70 or/65-69 (10729)  
71 16 and 70 (428)  
72 Ablation Techniques/ (2918)  
73 (ablat\$ adj2 (therap\$ or intervention\$ or treatment\$ or technique\$ or method\$ or procedure\$)).ti,ab. (16748)  
74 (ablat\$ adj2 (chemical\$ or thermal\$)).ti,ab. (4065)  
75 (ablat\$ adj2 (tumour\$ or tumor\$)).ti,ab. (4083)  
76 or/72-75 (24549)  
77 16 and 76 (1788)  
78 Chemoembolization, Therapeutic/ (5983)  
79 (chemo-emboli\$ or chemoemboli\$).ti,ab. (8271)  
80 TACE.ti,ab. (5534)  
81 cTACE.ti,ab. (144)  
82 (DEBTACE or DEB-TACE).ti,ab. (243)  
83 (eluting adj2 bead\$.ti,ab. (624)  
84 DC bead\$.ti,ab. (108)  
85 or/78-84 (11130)  
86 16 and 85 (3538)  
87 Embolization, Therapeutic/ (32829)  
88 (embolization\$ or embolisation\$ or embolize\$ or embolise\$ or embolizing\$ or embolising\$ or embolotherap\$).ti,ab. (52479)  
89 TAE.ti,ab. (2435)  
90 or/87-89 (63331)  
91 16 and 90 (2015)  
92 ((locoregional or loco-regional) adj2 (therap\$ or intervention\$ or treatment\$ or technique\$ or method\$ or procedure\$)).ti,ab. (3346)  
93 16 and 92 (531)  
94 (Therasphere\$ or Thera-sphere\$).ti,ab. (79)  
95 (SIR-Sphere\$ or SIRSphere\$).ti,ab. (119)  
96 (QuiremSphere\$ or Quirem-Sphere\$).ti,ab. (4)  
97 or/94-96 (167)  
98 16 and 97 (44)  
99 Microspheres/ (28670)  
100 (microsphere\$ or sphere\$).ti,ab. (76678)  
101 (microbead\$ or bead\$).ti,ab. (56354)  
102 or/99-101 (139820)  
103 Yttrium Radioisotopes/ (3105)  
104 Yttrium/ (3157)  
105 Yttrium Isotopes/ (709)  
106 (Yttrium\$ or 90Yttrium\$ or Y90 or Y-90 or 90Y or 90-Y).ti,ab. (9775)  
107 Holmium/ (904)  
108 (Holmium\$ or 166Holmium\$ or Ho-166 or Ho166 or 166Ho or 166-Ho).ti,ab. (3496)

109 Radiopharmaceuticals/ (51067)  
 110 or/103-109 (66136)  
 111 102 and 110 (1871)  
 112 ((radioactiv\$ or radio-activ\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$ or radiolabel\$ or radio-label\$ or radiopharmaceutic\$ or radio-pharmaceutic\$) adj2 (sphere\$ or microsphere\$ or bead\$ or microbead\$)).ti,ab. (4168)  
 113 (radiomicrosphere\$ or radio-microsphere\$).ti,ab. (33)  
 114 or/111-113 (5932)  
 115 16 and 114 (315)  
 116 Brachytherapy/ (19954)  
 117 (brachytherap\$ or brachy-therap\$ or microbrachytherap\$).ti,ab. (18064)  
 118 or/116-117 (25595)  
 119 118 and (110 or 112 or 113) (1048)  
 120 16 and 119 (85)  
 121 (radioemboli\$ or radio-emboli\$ or radioembolotherap\$ or radio-embolotherap\$).ti,ab. (1791)  
 122 TARE.ti,ab. (276)  
 123 (internal\$ adj3 (radiation\$ or radiotherap\$ or radio therap\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$)).ti,ab. (2446)  
 124 ((intra-arterial\$ or intraarterial\$) adj3 (radiation\$ or radiotherap\$ or radio therap\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$)).ti,ab. (284)  
 125 ((intra-arterial\$ or intraarterial\$) adj2 (brachytherap\$ or brachy-therap\$)).ti,ab. (20)  
 126 SIRT.ti,ab. (1519)  
 127 (SIR adj2 (therap\$ or treatment\$)).ti,ab. (88)  
 128 (radiation adj2 (segmentectom\$ or lobectom\$)).ti,ab. (53)  
 129 or/121-128 (5699)  
 130 16 and 129 (617)  
 131 26 or 31 or 36 or 42 or 47 or 52 or 59 or 64 or 71 or 77 (5352)  
 132 86 or 91 or 93 or 98 or 115 or 120 or 130 (5241)  
 133 randomized controlled trial.pt. (521951)  
 134 controlled clinical trial.pt. (94049)  
 135 randomized.ab. (510387)  
 136 placebo.ab. (215580)  
 137 drug therapy.fs. (2274478)  
 138 randomly.ab. (351559)  
 139 trial.ab. (541682)  
 140 groups.ab. (2157357)  
 141 133 or 134 or 135 or 136 or 137 or 138 or 139 or 140 (4916502)  
 142 exp animals/ not humans.sh. (4782806)  
 143 141 not 142 (4274490)  
 144 131 and 143 (1485)  
 145 132 and 143 (1633)  
 146 144 or 145 (2615)  
 147 limit 146 to yr="2000 -Current" (2303)

**Key:**

/ = subject heading (MeSH heading)  
 sh = subject heading (MeSH heading)  
 exp = exploded subject heading (MeSH heading)  
 \$ = truncation  
 ? = optional wild card character - stands for zero or one characters  
 ti,ab = terms in title or abstract fields  
 adj3 = terms within three words of each other (any order)  
 pt = publication type  
 fs = floating subheading

## Embase

via Ovid <http://ovidsp.ovid.com/>

Date range: 1974 to 1<sup>st</sup> February 2021

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 2852

The Embase strategy below includes the Cochrane Embase RCT filter (Ovid format).

Glanville J, Foxlee R, Wisniewski S, Noel-Storr A, Edwards M, Dooley G. [Translating the Cochrane EMBASE RCT filter from the Ovid interface to Embase.com: a case study.](#) *Health Info Libr J.* 2019 Jul 22. doi: 10.1111/hir.12269

- 1 liver cell carcinoma/ (162194)
- 2 liver cancer/ (33757)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (213965)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (5720)
- 5 hepatoma\$.ti,ab. (32390)
- 6 HCC.ti,ab. (95027)
- 7 or/1-6 (287192)
- 8 early cancer/ (18733)
- 9 cancer size/ (68391)
- 10 cancer staging/ (351293)
- 11 (small\$ or early or earlystage?).ti,ab. (4089821)
- 12 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (1713)
- 13 ("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$).ti,ab. (118443)
- 14 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (15664)
- 15 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (199061)
- 16 (eHCC or sHCC).ti,ab. (381)
- 17 or/8-15 (4561230)
- 18 16 or (7 and 17) (76409)
- 19 radiofrequency ablation/ or radiofrequency catheter ablation/ (35323)
- 20 ((radiofrequenc\$ or radio frequenc\$) adj3 ablat\$).ti,ab. (33895)
- 21 RFA.ti,ab. (13495)
- 22 RF ablation.ti,ab. (4770)
- 23 RTA.ti,ab. (3238)
- 24 RFTA.ti,ab. (112)
- 25 or/19-24 (54268)
- 26 18 and 25 (6083)
- 27 microwave thermotherapy/ (2355)
- 28 (microwave\$ or micro wave\$).ti,ab. (42308)
- 29 (MWA or MCT or PMCT or PMWA).ti,ab. (12308)
- 30 or/27-29 (53536)
- 31 18 and 30 (1341)
- 32 laser surgery/ or laser thermotherapy/ (29970)
- 33 low level laser therapy/ (24761)
- 34 (laser\$ adj2 ablat\$).ti,ab. (11732)
- 35 LTA.ti,ab. (5079)
- 36 or/32-35 (64097)
- 37 18 and 36 (232)
- 38 high intensity focused ultrasound/ (5645)
- 39 High intensity focus?ed ultrasound.ti,ab. (4434)
- 40 HIFU.ti,ab. (4015)

41 or/38-40 (6925)  
42 18 and 41 (199)  
43 cryoablation/ (7661)  
44 cryotherapy/ (18674)  
45 exp cryosurgery/ (8964)  
46 (cryoablat\$ or cryo-ablat\$ or cryotherap\$ or cryo-therap\$ or cryosurg\$ or cryo-surg\$).ti,ab.  
(20653)  
47 or/43-46 (37938)  
48 18 and 47 (602)  
49 alcohol/ (262986)  
50 injection/ or inject\$.ti,ab. (1002467)  
51 49 and 50 (15476)  
52 ((alcohol or ethanol) adj2 (inject\$ or ablat\$)).ti,ab. (7435)  
53 (PEI or PEIT).ti,ab. (10707)  
54 or/51-53 (27778)  
55 18 and 54 (1359)  
56 acetic acid/ (55062)  
57 (acetic acid adj2 (inject\$ or ablat\$)).ti,ab. (571)  
58 PAI.ti,ab. (21048)  
59 PAAI.ti,ab. (26)  
60 or/56-59 (76239)  
61 18 and 60 (277)  
62 irreversible electroporation/ (935)  
63 electroporation.ti,ab. (14271)  
64 IRE.ti,ab. (3451)  
65 or/62-64 (16754)  
66 18 and 65 (244)  
67 stereotactic body radiation therapy/ (14557)  
68 ((stereotactic or stereotaxic) adj3 ablat\$).ti,ab. (2594)  
69 ((stereotactic or stereotaxic) adj3 (radiotherap\$ or radiation)).ti,ab. (18237)  
70 SABR.ti,ab. (2039)  
71 (SBRT or SABRT).ti,ab. (10823)  
72 SABER.ti,ab. (317)  
73 or/67-72 (24024)  
74 18 and 73 (1111)  
75 ablation therapy/ (19004)  
76 tumor ablation/ (4585)  
77 (ablat\$ adj2 (therap\$ or intervention\$ or treatment\$ or technique\$ or method\$ or  
procedure\$)).ti,ab. (31253)  
78 (ablat\$ adj2 (chemical\$ or thermal\$)).ti,ab. (6405)  
79 (ablat\$ adj2 (tumour\$ or tumor\$)).ti,ab. (5915)  
80 or/75-79 (50436)  
81 18 and 80 (3419)  
82 chemoembolization/ (17402)  
83 (chemo-emboli\$ or chemoemboli\$).ti,ab. (14084)  
84 (chemoembolotherap\$ or chemo-embolotherap\$).ti,ab. (6)  
85 TACE.ti,ab. (11187)  
86 cTACE.ti,ab. (355)  
87 (DEBTACE or DEB-TACE).ti,ab. (714)  
88 (eluting adj2 bead\$).ti,ab,dq. (1453)  
89 DC bead\$.ti,ab. (316)  
90 or/82-89 (23200)  
91 18 and 90 (8472)  
92 artificial embolization/ (12308)

93 (embolization\$ or embolisation\$ or embolize\$ or embolise\$ or embolizing\$ or embolising\$ or embolotherap\$).ti,ab. (77524)

94 arterial embolization/ (4731)

95 TAE.ti,ab. (3692)

96 or/92-95 (82901)

97 18 and 96 (2800)

98 ((locoregional or loco-regional) adj2 (therap\$ or intervention\$ or treatment\$ or technique\$ or method\$ or procedure\$)).ti,ab,dq. (5911)

99 18 and 98 (1344)

100 (Therasphere\$ or thera-sphere\$).ti,ab,dv. (397)

101 (SIR-Sphere\$ or SIRSphere\$).ti,ab,dv. (552)

102 (QuiremSphere\$ or Quirem-Sphere\$).ti,ab,dv. (7)

103 brachytherapy device/ (815)

104 or/100-103 (1462)

105 18 and 104 (227)

106 microsphere/ (32856)

107 (microsphere\$ or sphere\$).ti,ab. (86590)

108 (microbead\$ or bead\$).ti,ab. (82280)

109 or/106-108 (172336)

110 yttrium/ (5289)

111 yttrium 90/ (8253)

112 (Yttrium\$ or 90Yttrium\$ or Y90 or Y-90 or 90Y or 90-Y).ti,ab. (13208)

113 holmium/ (1773)

114 (Holmium\$ or 166Holmium\$ or Ho-166 or Ho166 or 166Ho or 166-Ho).ti,ab. (5980)

115 radiopharmaceutical agent/ (29356)

116 or/110-115 (53464)

117 109 and 116 (3472)

118 radioactive microsphere/ (981)

119 ((radioactiv\$ or radio-activ\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$ or radiolabel\$ or radio-label\$ or radiopharmaceutic\$ or radio-pharmaceutic\$) adj2 (sphere\$ or microsphere\$ or bead\$ or microbead\$)).ti,ab. (4530)

120 (radiomicrosphere\$ or radio-microsphere\$).ti,ab. (44)

121 or/117-120 (8164)

122 18 and 121 (825)

123 brachytherapy/ (39112)

124 (brachytherap\$ or brachy-therap\$ or microbrachytherap\$).ti,ab. (31398)

125 or/123-124 (42463)

126 125 and (116 or 118 or 119 or 120) (837)

127 18 and 126 (69)

128 radioembolization/ (2628)

129 selective internal radiation.dq. (306)

130 intra arterial brachytherapy.dq. (1)

131 transarterial radioembolization.dq. (72)

132 (radioemboli\$ or radio-emboli\$ or radioembolotherap\$ or radio-embolotherap\$).ti,ab. (3726)

133 TARE.ti,ab. (643)

134 (internal\$ adj3 (radiation\$ or radiotherap\$ or radio-therap\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$)).ti,ab. (3623)

135 ((intra-arterial\$ or intraarterial\$) adj3 (radiation\$ or radiotherap\$ or radio-therap\$ or radionuclide\$ or radio-nuclide\$ or radioisotope\$ or radio-isotope\$)).ti,ab. (384)

136 ((intra-arterial\$ or intraarterial\$) adj2 (brachytherap\$ or brachy-therap\$)).ti,ab. (21)

137 SIRT.ti,ab. (2890)

138 (SIR adj2 (therap\$ or treatment\$)).ti,ab. (214)

139 (radiation adj2 (segmentectom\$ or lobectom\$)).ti,ab. (121)

140 or/128-139 (10380)

141 18 and 140 (1768)

- 142 26 or 31 or 37 or 42 or 48 or 55 or 61 or 66 or 74 or 81 (9992)  
 143 91 or 97 or 99 or 105 or 122 or 127 or 141 (11439)  
 144 randomized controlled trial/ (643723)  
 145 controlled clinical trial/ (466422)  
 146 Random\$.ti,ab,ot. (1630417)  
 147 randomization/ (89947)  
 148 intermethod comparison/ (268300)  
 149 placebo.ti,ab,ot. (319556)  
 150 (compare or compared or comparison).ti,ot. (531000)  
 151 ((evaluated or evaluate or evaluating or assessed or assess) and (compare or compared or comparing or comparison)).ab. (2249194)  
 152 (open adj label).ti,ab,ot. (84895)  
 153 ((double or single or doubly or singly) adj (blind or blinded or blindly)).ti,ab,ot. (241487)  
 154 double blind procedure/ (181068)  
 155 parallel group\$1.ti,ab,ot. (26971)  
 156 (crossover or cross over).ti,ab,ot. (109556)  
 157 ((assign\$ or match or matched or allocation) adj5 (alternate or group or groups or intervention or interventions or patient or patients or subject or subjects or participant or participants)).ti,ab,ot. (348130)  
 158 (assigned or allocated).ti,ab,ot. (409888)  
 159 (controlled adj7 (study or design or trial)).ti,ab,ot. (370490)  
 160 (volunteer or volunteers).ti,ab,ot. (254840)  
 161 human experiment/ (533310)  
 162 trial.ti,ot. (321229)  
 163 or/144-162 (5292425)  
 164 (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset\$.ti,ot. and animal experiment/ (1099056)  
 165 Animal experiment/ not (human experiment/ or human/) (2310394)  
 166 164 or 165 (2362506)  
 167 163 not 164 (5114838)  
 168 142 and 167 (2852)  
 169 143 and 167 (3457)  
 170 168 or 169 (5107)  
 171 limit 170 to yr="2000 -Current" (4927)  
 172 (conference abstract or "conference review").pt. (4020471)  
 173 171 not 172 (2852)

**Key:**

- / = subject heading (Emtree heading)  
 exp = exploded subject heading (Emtree heading)  
 \$ = truncation  
 ? = optional wild card character - stands for zero or one characters  
 ti,ab = terms in title or abstract fields  
 dv = terms in the device trade name field  
 dq = terms in the candidate term word field  
 adj3 = terms within three words of each other (any order)  
 adj = terms next to each other (in order specified)  
 ot = original title field  
 pt = publication type

**Cochrane Central Register of Controlled Trials (CENTRAL)**

via Wiley <http://onlinelibrary.wiley.com/>

Date range: Issue 2 of 12, February 2021

Date searched: 3<sup>rd</sup> February 2020



Records retrieved: 842

- #1 MeSH descriptor: [Carcinoma, Hepatocellular] this term only 1761
- #2 MeSH descriptor: [Liver Neoplasms] this term only 2373
- #3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):ti,ab,kw 8558
- #4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 73
- #5 hepatoma\*:ti,ab,kw 132
- #6 HCC:ti,ab,kw 3350
- #7 {OR #1-#6} 8984
- #8 MeSH descriptor: [Neoplasm Staging] this term only 6426
- #9 (small\* or early or earlystage\*):ti,ab,kw 208191
- #10 (((BCLC or Barcelona next Clinic next Liver next Cancer) near/3 ("0" or "A" or A1 or A2 or A3 or A4)) or "BCLC0-A"):ti,ab,kw 125
- #11 (("1" or "2" or "3" or one or two or three) next (cm\* or centimet\*)):ti,ab,kw 10341
- #12 (1cm\* or 2cm\* or 3cm\*):ti,ab,kw 1905
- #13 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) near/6 (size\* or diameter\*)):ti,ab,kw 8277
- #14 (eHCC or sHCC):ti,ab,kw 16
- #15 {OR #8-#13} 226228
- #16 #14 or (#7 and #15) 2262
- #17 MeSH descriptor: [Radiofrequency Ablation] this term only 45
- #18 MeSH descriptor: [Catheter Ablation] this term only 1454
- #19 MeSH descriptor: [Radiofrequency Therapy] this term only 97
- #20 ((radiofrequenc\* or radio next frequenc\*) near/3 ablat\*):ti,ab,kw 2615
- #21 RFA:ti,ab,kw 1079
- #22 RF next ablation:ti,ab,kw 308
- #23 RTA:ti,ab,kw 98
- #24 RFTA:ti,ab,kw 8
- #25 {OR #17-#24} 3957
- #26 #16 and #25 355
- #27 MeSH descriptor: [Microwaves] this term only 214
- #28 microwave\* or micro next wave\*:ti,ab,kw 907
- #29 (MWA or MCT or PMCT or PMWA):ti,ab,kw 1240
- #30 {OR #27-#29} 2040
- #31 #16 AND #30 76
- #32 MeSH descriptor: [Laser Therapy] this term only 1993
- #33 (laser\* near/2 ablat\*):ti,ab,kw 912
- #34 LTA:ti,ab,kw 218
- #35 {OR #32-#34} 2897
- #36 #16 and #35 14
- #37 MeSH descriptor: [High-Intensity Focused Ultrasound Ablation] this term only 46
- #38 MeSH descriptor: [Ultrasonic Therapy] this term only 796
- #39 High next intensity next focus?ed next ultrasound:ti,ab,kw 229
- #40 HIFU:ti,ab,kw 175
- #41 {OR #37-#40} 1032
- #42 #16 AND #41 8
- #43 MeSH descriptor: [Cryosurgery] this term only 348
- #44 MeSH descriptor: [Cryotherapy] this term only 687
- #45 (cryoablat\* or cryo next ablat\* or cryotherap\* or cryo next therap\* or cryosurg\* or cryo next surg\*):ti,ab,kw 2873
- #46 #43 or #44 or #45 2873
- #47 #16 and #46 26
- #48 MeSH descriptor: [Ethanol] this term only 3460
- #49 ((alcohol or ethanol) near/2 (inject\* or ablat\*)):ti,ab,kw 366

#50 (PEI or PEIT):ti,ab,kw 304  
 #51 {OR #48-#50} 3937  
 #52 #16 and #51 100  
 #53 MeSH descriptor: [Acetic Acid] this term only 200  
 #54 MeSH descriptor: [Acetates] this term only 1132  
 #55 ((acetic next acid) near/2 (inject\* or ablat\*)):ti,ab,kw 24  
 #56 PAI:ti,ab,kw 1676  
 #57 PAAI:ti,ab,kw 8  
 #58 {OR #53-#57} 2960  
 #59 #16 and #58 20  
 #60 MeSH descriptor: [Electroporation] this term only 27  
 #61 electroporation:ti,ab,kw 201  
 #62 IRE:ti,ab,kw 152  
 #63 {OR #60-#62} 313  
 #64 #16 and #63 4  
 #65 ((stereotactic or stereotaxic) near/3 ablat\*):ti,ab,kw 203  
 #66 ((stereotactic or stereotaxic) near/3 (radiotherap\* or radiation)):ti,ab,kw 1055  
 #67 (SABR or SABRT):ti,ab,kw 173  
 #68 SBRT:ti,ab,kw 605  
 #69 SABER:ti,ab,kw 526  
 #70 {OR #65-#69} 1679  
 #71 #16 and #70 54  
 #72 MeSH descriptor: [Ablation Techniques] this term only 87  
 #73 (ablat\* near/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*)):ti,ab,kw 3189  
 #74 (ablat\* near/2 (chemical\* or thermal\*)):ti,ab,kw 402  
 #75 (ablat\* near/2 (tumour\* or tumor\*)):ti,ab,kw 203  
 #76 {OR #72-#75} 3562  
 #77 #16 and #76 210  
 #78 MeSH descriptor: [Chemoembolization, Therapeutic] this term only 292  
 #79 (chemo next emboli\* or chemoemboli\*):ti,ab,kw 1326  
 #80 TACE:ti,ab,kw 1129  
 #81 cTACE:ti,ab,kw 54  
 #82 (DEBTACE or DEB next TACE):ti,ab,kw 57  
 #83 (eluting near/2 bead\*):ti,ab,kw 104  
 #84 DC bead\*:ti,ab,kw 56  
 #85 {OR #78-#84} 1619  
 #86 #16 and #85 471  
 #87 MeSH descriptor: [Embolization, Therapeutic] this term only 354  
 #88 (embolization\* or embolisation\* or embolize\* or embolise\* or embolizing\* or embolising\* or embolotherap\*):ti,ab,kw 2406  
 #89 TAE:ti,ab,kw 4102  
 #90 {OR #87-#89} 6409  
 #91 #16 and #90 184  
 #92 ((locoregional or loco next regional) near/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*)):ti,ab,kw 558  
 #93 #16 and #92 43  
 #94 (Therasphere\* or Thera next sphere\*):ti,ab,kw 14  
 #95 (SIR-Sphere\* or SIR next Sphere\*):ti,ab,kw 47  
 #96 (QuiremSphere\* or Quirem next Sphere\*):ti,ab,kw 1  
 #97 {OR #94-#96} 61  
 #98 #16 AND #97 9  
 #99 MeSH descriptor: [Microspheres] this term only 226  
 #100 (microsphere\* or sphere\*):ti,ab,kw 1485  
 #101 (microbead\* or bead\*):ti,ab,kw 1207

#102 {OR #99-#101} 2639  
 #103 MeSH descriptor: [Yttrium Radioisotopes] this term only 78  
 #104 MeSH descriptor: [Yttrium] this term only 119  
 #105 MeSH descriptor: [Yttrium Isotopes] this term only 8  
 #106 (Yttrium\* or 90Yttrium\* or "Y90" or "Y-90" or "90Y" or "90-Y"):ti,ab,kw 1269  
 #107 MeSH descriptor: [Holmium] this term only 31  
 #108 (Holmium\* or 166Holmium\* or "Ho-166" or "Ho166" or "166Ho" or "166-Ho"):ti,ab,kw 545  
 #109 MeSH descriptor: [Radiopharmaceuticals] this term only 1399  
 #110 {OR #103-#109} 3146  
 #111 #102 AND #110 134  
 #112 ((radioactiv\* or (radio next activ\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*) or radiolabel\* or (radio next label\*) or radiopharmaceutic\* or (radio next pharmaceutic\*)) near/2 (sphere\* or microsphere\* or bead\* or microbead\*)):ti,ab,kw 14  
 #113 (radiomicrosphere\* or (radio next microsphere\*)):ti,ab,kw 0  
 #114 #111 OR #112 OR #113 141  
 #115 #16 AND #114 24  
 #116 MeSH descriptor: [Brachytherapy] this term only 686  
 #117 (brachytherap\* or brachy next therap\* or microbrachytherap\*):ti,ab,kw 2169  
 #118 {OR #116-#117} 2169  
 #119 #118 AND (#110 OR #112 OR #113) 35  
 #120 #16 AND #119 3  
 #121 (radioemboli\* or (radio next emboli\*) or radioembolotherap\* or (radio next embolotherap\*)):ti,ab,kw 114  
 #122 TARE:ti,ab,kw 162  
 #123 (internal\* near/3 (radiation\* or radiotherap\* or (radio next therap\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*)):ti,ab,kw 150  
 #124 ((intraarterial\* or (intra next arterial)) near/3 (radiation\* or radiotherap\* or (radio next therap\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*)):ti,ab,kw 27  
 #125 ((intraarterial\* or (intra next arterial\*)) near/2 (brachytherap\* or (brachy next therap\*)):ti,ab,kw 2  
 #126 SIRT:ti,ab,kw 140  
 #127 (SIR near/2 (therap\* or treatment\*)):ti,ab,kw 18  
 #128 (radiation near/2 (segmentectom\* or lobectom\*)):ti,ab,kw 5  
 #129 {OR #121-#128} 483  
 #130 #16 AND #129 40  
 #131 #26 or #31 or #36 or #42 or #47 or #52 or #59 or #64 or #71 or #77 538  
 #132 #86 OR #91 OR #93 OR #98 OR #115 OR #120 OR #130 581  
 #133 #131 OR #132 908  
 #134 #131 or #132 in Trials 884  
 #135 #131 or #132 with Publication Year from 2000 to 2021, in Trials 842

**Key:**

MeSH descriptor = subject heading (MeSH heading)

\* = truncation

ti,ab,kw = terms in title, abstract or keyword fields

near/3 = terms within three words of each other (any order)

next = terms are next to each other

**Science Citation Index**

via Web of Science, Clarivate Analytics <https://clarivate.com/>

Date range: 1900 – 2<sup>nd</sup> February 2021

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 2867

# 77 2,867 #75 not #76  
Timespan=2000-2021

# 76 1,380,326 TI=(animal or animals or rat or rats or mouse or mice or rodent or rodents or porcine or murine or sheep or lamb or lambs or ewe or ewes or pig or pigs or piglet or piglets or sow or sows or minipig or minipigs or rabbit or rabbits or kitten or kittens or dog or dogs or puppy or puppies or monkey or monkeys or horse or horses or foal or foals or equine or calf or calves or cattle or heifer or heifers or hamster or hamsters or chicken or chickens or livestock or alpaca\* or llama\*)  
Timespan=2000-2021

# 75 3,059 #73 OR #72  
Timespan=2000-2021

# 74 3,257 #73 OR #72

# 73 1,901 #71 AND #70

# 72 2,229 #71 AND #69

# 71 6,931,396 TS=(random\* or control\* or trial\* or "single blind" or "double blind" or "triple blind" or placebo)

# 70 4,999 #68 OR #61 OR #57 OR #50 OR #48 OR #46 OR #44

# 69 5,936 #38 OR #36 OR #32 OR #30 OR #28 OR #26 OR #24 OR #22 OR #20 OR #18

# 68 653 #67 AND #14

# 67 9,335 #66 OR #65 OR #64 OR #63 OR #62

# 66 77 TS=(radiation NEAR/2 (segmentectom\* or lobectom\* ) )

# 65 2,393 TS=(SIRT or (SIR NEAR/2 (therap\* or treatment\* ) ) )

# 64 24 TS=((intra-arterial\* or intraarterial\*) NEAR/2 (brachytherap\* or brachy-therap\* ) )

# 63 4,602 TS=((internal\* or intra-arterial\* or intraarterial\*) NEAR/3 (radiation\* or radiotherap\* or radio-therap\* or radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\* ) )

# 62 3,542 TS=(radioemboli\* or radio-emboli\* or radioembolotherap\* or radio-embolotherap\* or TARE)

# 61 80 #60 AND #14

# 60 584 #59 AND #58

# 59 52,084 #55 OR #54 OR #52

# 58 27,919 TS=(brachytherap\* or brachy-therap\* or microbrachytherap\* )

# 57 416 #56 AND #14

# 56 5,269 #55 OR #54 OR #53

# 55 21 TS=(radiomicrosphere\* or radio-microsphere\* )

# 54 2,289 TS=((radioactiv\* or radio-activ\* or radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\* or radiolabel\* or radio-label\* or radiopharmaceutic\* or radio-pharmaceutic\* ) NEAR/2 (sphere\* or microsphere\* or bead\* or microbead\* ) )

# 53 3,104 #52 AND #51

# 52 49,922 TS=(Yttrium\* or 90Yttrium\* or Y90 or Y-90 or 90Y or 90-Y or Holmium\* or 166Holmium\* or Ho-166 or Ho166 or 166Ho or 166-Ho)

# 51 348,045 TS=(microsphere\* or sphere\* or microbead\* or bead\* )

# 50 50 #49 AND #14

# 49 319 TS=(Therasphere\* or Thera-sphere\* or SIR-Sphere\* or SIRSphere\* or QuiremSphere\* or Quirem-Sphere\* )

# 48 472 #47 AND #14

# 47 3,756 TS=((locoregional or loco-regional) NEAR/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\* ) )

# 46 2,006 #45 AND #14

# 45 55,271 TS=(embolization\* or embolisation\* or embolize\* or embolise\* or embolizing\* or embolising\* or embolotherap\* or TAE)

# 44 3,676 #43 AND #14

# 43 13,768 #42 OR #41 OR #40 OR #39

# 42 185 TS=(DC NEAR/1 bead\* )

# 41 1,200 TS=(eluting NEAR/2 bead\* )

# 40 5,966 TS=(TACE or cTACE or DEBTACE or DEB-TACE)

# 39 11,579 TS=(chemo-emboli\* or chemoemboli\* )

# 38 2,729 #37 AND #14  
# 37 31,588 TS=(ablat\* NEAR/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\* or chemical\* or thermal\* or tumour\* or tumor\*))  
# 36 447 #35 AND #14  
# 35 21,126 #34 OR #33  
# 34 10,281 TS=(SABR or SABRT or SBRT or SABER)  
# 33 16,227 TS=((stereotactic or stereotaxic) NEAR/3 (ablat\* or radiotherap\* or radiation))  
# 32 203 #31 AND #14  
# 31 22,700 TS=(electroporation or IRE)  
# 30 177 #29 AND #14  
# 29 17,170 TS=("acetic acid" NEAR/2 (inject\* or ablat\*) or PAI or PAAI)  
# 28 1,645 #27 AND #14  
# 27 22,485 TS=((alcohol or ethanol) NEAR/2 (inject\* or ablat\*) or PEI or PEIT)  
# 26 339 #25 AND #14  
# 25 15,464 TS=(cryoablat\* or cryo-ablat\* or cryotherap\* or cryo-therap\* or cryosurg\* or cryo-surg\*)  
# 24 129 #23 AND #14  
# 23 4,161 TS=("High intensity focused ultrasound" or "High intensity focussed ultrasound" or HIFU)  
# 22 108 #21 AND #14  
# 21 43,123 TS=((laser\* NEAR/2 ablat\*) or LTA)  
# 20 1,009 #19 AND #14  
# 19 252,991 TS=(microwave\* or (micro NEAR/1 wave\*) or MWA or MCT or PMCT or PMWA)  
# 18 4,188 #17 AND #14  
# 17 41,421 #16 OR #15  
# 16 16,326 TS=(RFA or RTA or RFTA or (RF NEAR/1 ablation))  
# 15 32,524 TS=((radiofrequenc\* or radio-frequenc\*) NEAR/3 ablat\*)  
# 14 43,788 #13 OR #12  
# 13 530 TS=(eHCC or sHCC)  
# 12 43,351 #11 AND #5  
# 11 5,330,461 #10 OR #9 OR #8 OR #7 OR #6  
# 10 103,314 TS=((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) NEAR/6 (size\* or diameter\*))  
# 9 5,764 TS=(1cm\* or 2cm\* or 3cm\*)  
# 8 635,224 TS=(("1" or "2" or "3" or one or two or three) NEAR/1 (cm or cms or centimet\*))  
# 7 767 TS=(("BCLC or "Barcelona Clinic Liver Cancer") NEAR/3 ("0" or "A" or "A1" or "A2" or "A3" or "A4")) or BCLC0-A)  
# 6 4,731,138 TS=(small\* or early or earlystage\*)  
# 5 225,123 #4 OR #3 OR #2 OR #1  
# 4 57,158 TS=HCC  
# 3 32,070 TS=(hepatoma\*)  
# 2 4,114 TS=(hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*)  
# 1 192,908 TS=((liver or hepatocellular or hepato-cellular or hepatic\*) NEAR/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*))

**Key:**

TS = topic tag; searches in title, abstract, author keywords and keywords plus fields

TI = search in title field

\* = truncation

NEAR/2 = terms within two words of each other (any order)

**Cochrane Database of Systematic Reviews (CDSR)**

via Wiley <http://onlinelibrary.wiley.com/>

Date range: Issue 2 of 12, February 2021

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 43

#1 MeSH descriptor: [Carcinoma, Hepatocellular] this term only 1761  
#2 MeSH descriptor: [Liver Neoplasms] this term only 2373  
#3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):ti,ab,kw 8558  
#4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 73  
#5 hepatoma\*:ti,ab,kw 132  
#6 (HCC or eHCC or sHCC):ti,ab,kw 3364  
#7 {OR #1-#6} 8991  
#8 MeSH descriptor: [Radiofrequency Ablation] this term only 45  
#9 MeSH descriptor: [Catheter Ablation] this term only 1454  
#10 MeSH descriptor: [Radiofrequency Therapy] this term only 97  
#11 ((radiofrequenc\* or radio next frequenc\*) near/3 ablat\*):ti,ab,kw 2615  
#12 RFA:ti,ab,kw 1079  
#13 RF next ablation:ti,ab,kw 308  
#14 RTA:ti,ab,kw 98  
#15 RFTA:ti,ab,kw 8  
#16 {OR #8-#15} 3957  
#17 #7 and #16 685  
#18 MeSH descriptor: [Microwaves] this term only 214  
#19 microwave\* or micro next wave\*:ti,ab,kw 907  
#20 (MWA or MCT or PMCT or PMWA):ti,ab,kw 1240  
#21 {OR #18-#20} 2040  
#22 #7 AND #21 172  
#23 MeSH descriptor: [Laser Therapy] this term only 1993  
#24 (laser\* near/2 ablat\*):ti,ab,kw 912  
#25 LTA:ti,ab,kw 218  
#26 {OR #23-#25} 2897  
#27 #7 and #26 23  
#28 MeSH descriptor: [High-Intensity Focused Ultrasound Ablation] this term only 46  
#29 MeSH descriptor: [Ultrasonic Therapy] this term only 796  
#30 High next intensity next focus?ed next ultrasound:ti,ab,kw 229  
#31 HIFU:ti,ab,kw 175  
#32 {OR #28-#31} 1032  
#33 #7 AND #32 19  
#34 MeSH descriptor: [Cryosurgery] this term only 348  
#35 MeSH descriptor: [Cryotherapy] this term only 687  
#36 (cryoablat\* or cryo next ablat\* or cryotherap\* or cryo next therap\* or cryosurg\* or cryo next surg\*):ti,ab,kw 2873  
#37 #34 or #35 or #36 2873  
#38 #7 and #37 72  
#39 MeSH descriptor: [Ethanol] this term only 3460  
#40 ((alcohol or ethanol) near/2 (inject\* or ablat\*)):ti,ab,kw 366  
#41 (PEI or PEIT):ti,ab,kw 304  
#42 {OR #39-#41} 3937  
#43 #7 and #42 204  
#44 MeSH descriptor: [Acetic Acid] this term only 200  
#45 MeSH descriptor: [Acetates] this term only 1132  
#46 ((acetic next acid) near/2 (inject\* or ablat\*)):ti,ab,kw 24  
#47 PAI:ti,ab,kw 1676  
#48 PAAI:ti,ab,kw 8  
#49 {OR #44-#48} 2960  
#50 #7 and #49 28  
#51 MeSH descriptor: [Electroporation] this term only 27

#52 electroporation:ti,ab,kw 201  
 #53 IRE:ti,ab,kw 152  
 #54 {OR #51-#53} 313  
 #55 #7 and #54 17  
 #56 ((stereotactic or stereotaxic) near/3 ablat\*):ti,ab,kw 203  
 #57 ((stereotactic or stereotaxic) near/3 (radiotherap\* or radiation)):ti,ab,kw 1055  
 #58 (SABR or SABRT):ti,ab,kw 173  
 #59 SBRT:ti,ab,kw 605  
 #60 SABER:ti,ab,kw 526  
 #61 {OR #56-#60} 1679  
 #62 #7 and #61 133  
 #63 MeSH descriptor: [Ablation Techniques] this term only 87  
 #64 (ablat\* near/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*)):ti,ab,kw 3189  
 #65 (ablat\* near/2 (chemical\* or thermal\*)):ti,ab,kw 402  
 #66 (ablat\* near/2 (tumour\* or tumor\*)):ti,ab,kw 203  
 #67 {OR #63-#66} 3562  
 #68 #7 and #67 395  
 #69 MeSH descriptor: [Chemoembolization, Therapeutic] this term only 292  
 #70 (chemo next emboli\* or chemoemboli\*):ti,ab,kw 1326  
 #71 TACE:ti,ab,kw 1129  
 #72 cTACE:ti,ab,kw 54  
 #73 (DEBTACE or DEB next TACE):ti,ab,kw 57  
 #74 (eluting near/2 bead\*):ti,ab,kw 104  
 #75 DC bead\*:ti,ab,kw 56  
 #76 {OR #69-#75} 1619  
 #77 #7 and #76 1455  
 #78 MeSH descriptor: [Embolization, Therapeutic] this term only 354  
 #79 (embolization\* or embolisation\* or embolize\* or embolise\* or embolizing\* or embolising\* or embolotherap\*):ti,ab,kw 2406  
 #80 TAE:ti,ab,kw 4102  
 #81 {OR #78-#80} 6409  
 #82 #7 and #81 553  
 #83 ((locoregional or loco next regional) near/2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*)):ti,ab,kw 558  
 #84 #7 and #83 144  
 #85 (Therasphere\* or Thera next sphere\*):ti,ab,kw 14  
 #86 (SIR-Sphere\* or SIR next Sphere\*):ti,ab,kw 47  
 #87 (QuiremSphere\* or Quirem next Sphere\*):ti,ab,kw 1  
 #88 {OR #85-#87} 61  
 #89 #7 AND #88 47  
 #90 MeSH descriptor: [Microspheres] this term only 226  
 #91 (microsphere\* or sphere\*):ti,ab,kw 1485  
 #92 (microbead\* or bead\*):ti,ab,kw 1207  
 #93 {OR #90-#92} 2639  
 #94 MeSH descriptor: [Yttrium Radioisotopes] this term only 78  
 #95 MeSH descriptor: [Yttrium] this term only 119  
 #96 MeSH descriptor: [Yttrium Isotopes] this term only 8  
 #97 (Yttrium\* or 90Yttrium\* or "Y90" or "Y-90" or "90Y" or "90-Y"):ti,ab,kw 1269  
 #98 MeSH descriptor: [Holmium] this term only 31  
 #99 (Holmium\* or 166Holmium\* or "Ho-166" or "Ho166" or "166Ho" or "166-Ho"):ti,ab,kw 545  
 #100 MeSH descriptor: [Radiopharmaceuticals] this term only 1399  
 #101 {OR #94-#100} 3146  
 #102 #93 AND #101 134

#103 ((radioactiv\* or (radio next activ\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*) or radiolabel\* or (radio next label\*) or radiopharmaceutic\* or (radio next pharmaceutic\*)) near/2 (sphere\* or microsphere\* or bead\* or microbead\*)):ti,ab,kw 14

#104 (radiomicrosphere\* or (radio next microsphere\*)):ti,ab,kw 0

#105 #102 OR #103 OR #104 141

#106 #7 AND #105 104

#107 MeSH descriptor: [Brachytherapy] this term only 686

#108 (brachytherap\* or brachy next therap\* or microbrachytherap\*):ti,ab,kw 2169

#109 {OR #107-#108} 2169

#110 #109 AND (#101 OR #103 OR #104) 35

#111 #7 AND #110 9

#112 (radioemboli\* or (radio next emboli\*) or radioembolotherap\* or (radio next embolotherap\*)):ti,ab,kw 114

#113 TARE:ti,ab,kw 162

#114 (internal\* near/3 (radiation\* or radiotherap\* or (radio next therap\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*)):ti,ab,kw 150

#115 ((intraarterial\* or (intra next arterial)) near/3 (radiation\* or radiotherap\* or (radio next therap\*) or radionuclide\* or (radio next nuclide\*) or radioisotope\* or (radio next isotope\*)):ti,ab,kw 27

#116 ((intraarterial\* or (intra next arterial\*)) near/2 (brachytherap\* or (brachy next therap\*)):ti,ab,kw 2

#117 SIRT:ti,ab,kw 140

#118 (SIR near/2 (therap\* or treatment\*)):ti,ab,kw 18

#119 (radiation near/2 (segmentectom\* or lobectom\*)):ti,ab,kw 5

#120 {OR #112-#119} 483

#121 #7 AND #120 164

#122 #17 or #22 or #27 or #33 or #38 or #43 or #50 or #55 or #62 or #68 1155

#123 #77 OR #82 OR #84 OR #89 OR #106 OR #111 OR #121 1882

#124 #122 OR #123 in Cochrane Reviews, Cochrane Protocols 43

**Key:**

MeSH descriptor = subject heading (MeSH heading)

\* = truncation

ti,ab,kw = terms in title or abstract or keyword fields

near/3 = terms within three words of each other (any order)

next = terms are next to each other

**Database of Abstracts of Reviews of Effects (DARE)**

via <http://www.crd.york.ac.uk/CRDWeb/>

Date range: Inception – 31<sup>st</sup> March 2015

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 155

1 MeSH DESCRIPTOR Carcinoma, Hepatocellular IN DARE 288

2 MeSH DESCRIPTOR Liver Neoplasms IN DARE 393

3 ((liver or hepatocellular or hepato-cellular or hepatic\*) adj3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)) IN DARE 506

4 ((carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*) adj3 (liver or hepatocellular or hepato-cellular or hepatic\*) ) IN DARE 384

5 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\* ) IN DARE 0

6 (hepatoma\*) IN DARE 2

7 (HCC or eHCC or sHCC) IN DARE 25

8 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 526

9 MeSH DESCRIPTOR Radiofrequency Ablation EXPLODE ALL TREES IN DARE 179

10 MeSH DESCRIPTOR Catheter Ablation IN DARE 179



11 MeSH DESCRIPTOR Radiofrequency Therapy IN DARE 0

12 ((radiofrequency\* or radio-frequenc\*) adj3 ablat\*) OR (ablat\* adj3 (radiofrequency\* or radio-frequenc\*)) IN DARE 115

13 (RFA or "RF ablation" or RTA or RFTA) IN DARE 19

14 MeSH DESCRIPTOR Microwaves IN DARE 7

15 (microwave\* or micro-wave\* or MWA or MCT or PMCT or PMWA) IN DARE 33

16 MeSH DESCRIPTOR Laser Therapy EXPLODE ALL TREES IN DARE 200

17 (laser\* adj2 ablat\*) OR (ablat\* adj2 laser\*) OR (LTA) IN DARE 38

18 MeSH DESCRIPTOR High-Intensity Focused Ultrasound Ablation IN DARE 5

19 MeSH DESCRIPTOR Ultrasonic Therapy IN DARE 53

20 ((High intensity focus\*) AND (ultrasound) ) IN DARE 15

21 (HIFU) IN DARE 5

22 MeSH DESCRIPTOR Cryosurgery IN DARE 15

23 MeSH DESCRIPTOR Cryotherapy IN DARE 26

24 (cryoablat\* or cryo-ablat\* or cryotherap\* or cryo-therap\* or cryosurg\* or cryo-surg\* ) IN DARE 109

25 MeSH DESCRIPTOR Ethanol IN DARE 28

26 MeSH DESCRIPTOR Acetic Acid IN DARE 8

27 MeSH DESCRIPTOR Acetates IN DARE 26

28 ((alcohol or ethanol or "acetic acid") adj2 (inject\* or ablat\*)) OR ((inject\* or ablat\*) adj2 (alcohol or ethanol or "acetic acid")) IN DARE 24

29 (PEI or PEIT) OR (PAI or PAAI) IN DARE 99

30 MeSH DESCRIPTOR Electroporation IN DARE 2

31 (electroporation or IRE ) IN DARE 3

32 ((stereotactic or stereotaxic) adj3 (ablat\* or radiotherap\* or radiation\*)) OR ((ablat\* or radiotherap\* or radiation\*) adj3 (stereotactic or stereotaxic) ) IN DARE 29

33 MeSH DESCRIPTOR Ablation Techniques IN DARE 20

34 (ablat\* adj2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\* or chemical\* or thermal\* or tumour\* or tumor\*)) OR ((therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\* or chemical\* or thermal\* or tumour\* or tumor\*) adj2 ablat\*) IN DARE 215

35 #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 791

36 MeSH DESCRIPTOR Chemoembolization, Therapeutic IN DARE 67

37 (chemo-emboli\* or chemoemboli\* or chemoembolotherap\* or chemo-embolotherap\* or TACE or cTACE or DEBTACE or DEB-TACE ) IN DARE 85

38 (eluting adj2 bead\*) OR (bead\* adj2 eluting) IN DARE 5

39 (DC bead\*) IN DARE 0

40 MeSH DESCRIPTOR Embolization, Therapeutic IN DARE 65

41 (embolization\* or embolisation\* or embolize\* or embolise\* or embolizing\* or embolising\* or embolotherap\* or TAE) IN DARE 126

42 ((locoregional or loco-regional) adj2 (therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*)) OR ((therap\* or intervention\* or treatment\* or technique\* or method\* or procedure\*) adj2 (locoregional or loco-regional) ) IN DARE 18

43 #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 209

44 MeSH DESCRIPTOR Microspheres IN DARE 7

45 ((microsphere\* or sphere\* or micro-sphere\* or microbead\* or micro-bead\* or bead\*)) IN DARE 36

46 ((Therasphere\* or Thera-sphere\* or SIR-Sphere\* or SIRSphere\* or QuiremSphere\* or Quirem-Sphere\*)) IN DARE 2

47 #44 OR #45 36

48 MeSH DESCRIPTOR Yttrium Radioisotopes IN DARE 6

49 MeSH DESCRIPTOR Yttrium EXPLODE ALL TREES IN DARE 7

50 (Yttrium\* or 90Yttrium\* or Y90 or Y-90 or 90Y or 90-Y) IN DARE 18

51 MeSH DESCRIPTOR Holmium IN DARE 5  
52 (Holmium\* or 166Holmium\* or Ho-166 or Ho166 or 166Ho or 166-Ho) IN DARE 21  
53 MeSH DESCRIPTOR Radiopharmaceuticals IN DARE 184  
54 #48 OR #49 OR #50 OR #51 OR #52 OR #53 219  
55 #47 AND #54 3  
56 ((radioactiv\* or radio-activ\* or radionuclide\* or radio-nuclide\* or radioisotope\* or radio-  
isotope\* or radiolabel\* or radio-label\* or radiopharmaceutic\* or radio-pharmaceutic\*) adj2 (sphere\*  
or microsphere\* or bead\* or microbead\*)) IN DARE 1  
57 ((sphere\* or microsphere\* or bead\* or microbead\*) adj2 (radioactiv\* or radio-activ\* or  
radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\* or radiolabel\* or radio-label\* or  
radiopharmaceutic\* or radio-pharmaceutic\*)) IN DARE 1  
58 ((radiomicrosphere\* or radio-microsphere\*)) IN DARE 0  
59 #46 OR #55 OR #56 OR #57 OR #58 5  
60 MeSH DESCRIPTOR Brachytherapy IN DARE 49  
61 ((brachytherap\* or brachy-therap\* or microbrachytherap\* ) IN DARE 84  
62 #60 OR #61 84  
63 #54 OR #56 OR #57 OR #58 220  
64 #62 AND #63 2  
65 (radioemboli\* or radio-emboli\* or radioembolotherap\* or radio-embolotherap\*) IN DARE  
7  
66 (TARE) IN DARE 0  
67 (internal\* adj3 (radiation\* or radiotherap\* or radio-therap\* or radionuclide\* or radio-nuclide\*  
or radioisotope\* or radio-isotope\*) ) OR ((radiation\* or radiotherap\* or radio-therap\* or  
radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\*) adj3 internal\* ) IN DARE 4  
68 ((intra-arterial\* or intraarterial\*) adj3 (radiation\* or radiotherap\* or radio-therap\* or  
radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\*)) OR ((radiation\* or radiotherap\*  
or radio-therap\* or radionuclide\* or radio-nuclide\* or radioisotope\* or radio-isotope\*) adj3 (intra-  
arterial\* or intraarterial\*)) IN DARE 2  
69 (SIRT) IN DARE 3  
70 (SIR adj2 (therap\* or treatment\*)) OR ((therap\* or treatment\*) adj2 SIR ) IN DARE 0  
71 (radiation adj2 (segmentectom\* or lobectom\*)) OR ((segmentectom\* or lobectom\*) adj2  
radiation ) IN DARE 0  
72 #43 OR #59 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 214  
73 #8 AND #35 94  
74 #8 AND #72 97  
75 #73 OR #74 160  
76 \* IN DARE FROM 2000 TO 2015 43354  
77 #75 AND #76 155

**Key:**

MeSH DESCRIPTOR = subject heading (MeSH heading)

\* = truncation

adj3 = terms within three words of each other (order specified)

**International Health Technology Assessment (HTA) database**

via <https://database.inahta.org/>

Date range: Inception – 3<sup>rd</sup> February 2021

Date searched: 4<sup>th</sup> February 2021

Records retrieved: 83

1. 49 hits retrieved with date limit 2000-2021

((ablat\* OR radiofrequenc\* OR "radio-frequency" OR "radio frequency" OR RFA OR RTA OR  
RFTA OR microwave\* OR "micro-wave" OR "micro wave" OR MWA OR MCT OR PMCT OR  
PMWA OR laser\* OR LTA OR "high intensity focused ultrasound" OR "High intensity focussed  
ultrasound" OR HIFU OR cryoablat\* OR "cryo-ablation" OR "cryo ablation" OR cryotherap\* OR

"cryo-therapy" OR "cryo therapy" OR cryosurg\* OR "cryo-surgery" OR "cryo surgery" OR "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT OR "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII OR electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER)[Keywords]) OR ((ablat\* OR radiofrequenc\* OR "radio-frequency" OR "radio frequency" OR RFA OR RTA OR RFTA OR microwave\* OR "micro-wave" OR "micro wave" OR MWA OR MCT OR PMCT OR PMWA OR laser\* OR LTA OR "high intensity focused ultrasound" OR "High intensity focussed ultrasound" OR HIFU OR cryoablat\* OR "cryo-ablation" OR "cryo ablation" OR cryotherap\* OR "cryo-therapy" OR "cryo therapy" OR cryosurg\* OR "cryo-surgery" OR "cryo surgery" OR "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT OR "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII OR electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER)[abs]) OR ((ablat\* OR radiofrequenc\* OR "radio-frequency" OR "radio frequency" OR RFA OR RTA OR RFTA OR microwave\* OR "micro-wave" OR "micro wave" OR MWA OR MCT OR PMCT OR PMWA OR laser\* OR LTA OR "high intensity focused ultrasound" OR "High intensity focussed ultrasound" OR HIFU OR cryoablat\* OR "cryo-ablation" OR "cryo ablation" OR cryotherap\* OR "cryo-therapy" OR "cryo therapy" OR cryosurg\* OR "cryo-surgery" OR "cryo surgery" OR "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT OR "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII OR electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER)[Title])) AND (((hepatoma\*)[Title] OR (hepatoma\*)[abs] OR (hepatoma\*)[Keywords] OR (HCC)[Title] OR (HCC)[abs] OR (HCC)[Keywords] OR (eHCC)[Title] OR (eHCC)[abs] OR (eHCC)[keywords] OR (sHCC)[Title] OR (sHCC)[abs] OR (sHCC)[keywords]) OR ((hepatocellularcarcinoma\*)[Title] OR (hepatocellularcarcinoma\*)[abs] OR (hepatocellularcarcinoma\*)[Keywords] OR (hepatocarcinoma\*)[Title] OR (hepatocarcinoma\*)[abs] OR (hepatocarcinoma\*)[Keywords]) OR (((carcinoma\*)[Keywords] OR (cancer\*)[Keywords] OR (neoplas\*)[Keywords] OR (tumour\*)[Keywords] OR (tumor\*)[Keywords] OR (malign\*)[Keywords]) AND ((liver)[Keywords] OR (hepatocellular)[Keywords] OR ("hepato-cellular")[Keywords] OR ("hepato cellular")[Keywords] OR (hepatic\*)[Keywords])) OR (((carcinoma\*)[abs] OR (cancer\*)[abs] OR (neoplas\*)[abs] OR (tumour\*)[abs] OR (tumor\*)[abs] OR (malign\*)[abs]) AND ((liver)[abs] OR (hepatocellular)[abs] OR ("hepato-cellular")[abs] OR ("hepato cellular")[abs] OR (hepatic\*)[abs])) OR (((carcinoma\*)[Title] OR (cancer\*)[Title] OR (neoplas\*)[Title] OR (tumour\*)[Title] OR (tumor\*)[Title] OR (malign\*)[Title]) AND ((liver)[Title] OR (hepatocellular)[Title] OR ("hepato-cellular")[Title] OR ("hepato cellular")[Title] OR (hepatic\*)[Title])) OR ("Liver Neoplasms"[mh]) OR ("Carcinoma, Hepatocellular"[mh]))

2. 34 hits retrieved with date limit 2000-2021

((chemoemboli\* OR "chemo-embolization" OR "chemo-embolisation" OR "chemo embolization" OR "chemo embolisation" OR TACE OR cTACE OR DEBTACE OR "DEB-TACE" OR embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR "loco-regional" OR "loco regional" OR Therasphere\* OR "Thera-sphere" OR "Thera-spheres" OR "Thera sphere" OR "Thera spheres" OR "SIR-Sphere" OR "SIR-Spheres" OR SIRSphere\* OR "SIR sphere" OR "SIR spheres" OR QuiremSphere\* OR "Quirem-Sphere" OR "Quirem-Spheres" OR "Quirem sphere" OR "Quirem spheres" OR microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR "radio-microsphere" OR "radio-microspheres" OR "radio microsphere" OR "radio microspheres" OR brachytherap\* OR "brachy-therapy" OR "brachy therapy" OR microbrachytherap\* OR radioemboli\* OR "radio-embolisation" OR "radio-embolization" OR "radio embolization" OR "radio embolization" OR radioembolotherap\* OR "radio-embolotherapy" OR "radio-embolotherapies" OR "radio embolotherapy" OR "radio embolotherapies" OR TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\*)[Keywords]) OR ((chemoemboli\* OR "chemo-embolization" OR "chemo-embolisation" OR "chemo embolization" OR "chemo embolisation" OR TACE OR cTACE OR DEBTACE OR "DEB-TACE" OR embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR "loco-

regional" OR "loco regional" OR Therasphere\* OR "Thera-sphere" OR "Thera-spheres" OR "Thera sphere" OR "Thera spheres" OR "SIR-Sphere" OR "SIR-Spheres" OR SIRSphere\* OR "SIR sphere" OR "SIR spheres" OR QuiremSphere\* OR "Quirem-Sphere" OR "Quirem-Spheres" OR "Quirem sphere" OR "Quirem spheres" OR microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR "radio-microsphere" OR "radio-microspheres" OR "radio microsphere" OR "radio microspheres" OR brachytherap\* OR "brachy-therapy" OR "brachy therapy" OR microbrachytherap\* OR radioemboli\* OR "radio-embolisation" OR "radio-embolization" OR "radio embolization" OR "radio embolization" OR radioembolotherap\* OR "radio-embolotherapy" OR "radio-embolotherapies" OR "radio embolotherapy" OR "radio embolotherapies" OR TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\*][abs]) OR ((chemoemboli\* OR "chemo-embolization" OR "chemo-embolisation" OR "chemo embolization" OR "chemo embolisation" OR TACE OR cTACE OR DEBTACE OR "DEB-TACE" OR embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR "loco-regional" OR "loco regional" OR Therasphere\* OR "Thera-sphere" OR "Thera-spheres" OR "Thera sphere" OR "Thera spheres" OR "SIR-Sphere" OR "SIR-Spheres" OR SIRSphere\* OR "SIR sphere" OR "SIR spheres" OR QuiremSphere\* OR "Quirem-Sphere" OR "Quirem-Spheres" OR "Quirem sphere" OR "Quirem spheres" OR microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR "radio-microsphere" OR "radio-microspheres" OR "radio microsphere" OR "radio microspheres" OR brachytherap\* OR "brachy-therapy" OR "brachy therapy" OR microbrachytherap\* OR radioemboli\* OR "radio-embolisation" OR "radio-embolization" OR "radio embolization" OR "radio embolization" OR radioembolotherap\* OR "radio-embolotherapy" OR "radio-embolotherapies" OR "radio embolotherapy" OR "radio embolotherapies" OR TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\*][Title])) AND (((hepatoma\*][Title] OR (hepatoma\*][abs] OR (hepatoma\*][Keywords] OR (HCC)[Title] OR (HCC)[abs] OR (HCC)[Keywords] OR (eHCC)[Title] OR (eHCC)[abs] OR (eHCC)[keywords] OR (sHCC)[Title] OR (sHCC)[abs] OR (sHCC)[keywords]) OR ((hepatocellularcarcinoma\*][Title] OR (hepatocellularcarcinoma\*][abs] OR (hepatocellularcarcinoma\*][Keywords] OR (hepatocarcinoma\*][Title] OR (hepatocarcinoma\*][abs] OR (hepatocarcinoma\*][Keywords]) OR (((carcinoma\*][Keywords] OR (cancer\*][Keywords] OR (neoplas\*][Keywords] OR (tumour\*][Keywords] OR (tumor\*][Keywords] OR (malign\*][Keywords])) AND ((liver)[Keywords] OR (hepatocellular)[Keywords] OR ("hepato-cellular")[Keywords] OR ("hepato cellular")[Keywords] OR (hepatic\*][Keywords])) OR (((carcinoma\*][abs] OR (cancer\*][abs] OR (neoplas\*][abs] OR (tumour\*][abs] OR (tumor\*][abs] OR (malign\*][abs])) AND ((liver)[abs] OR (hepatocellular)[abs] OR ("hepato-cellular")[abs] OR ("hepato cellular")[abs] OR (hepatic\*][abs])) OR (((carcinoma\*][Title] OR (cancer\*][Title] OR (neoplas\*][Title] OR (tumour\*][Title] OR (tumor\*][Title] OR (malign\*][Title])) AND ((liver)[Title] OR (hepatocellular)[Title] OR ("hepato-cellular")[Title] OR ("hepato cellular")[Title] OR (hepatic\*][Title])) OR ("Liver Neoplasms"[mh]) OR ("Carcinoma, Hepatocellular"[mh]))

**Key:**

- [Keywords] = search of keywords field
- [abs] = search of abstract field
- [Title] = search of title field
- [mh] = subject heading search
- \* = truncation

**Epistemonikos**

via <https://www.epistemonikos.org/>  
 Date range: Inception – 4<sup>th</sup> February 2021  
 Date searched: 4<sup>th</sup> February 2021  
 Records retrieved: 376

(title:(title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC))) OR abstract:(title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC))) AND (title:(ablat\* OR radiofrequenc\* OR radio-frequenc\* OR "radio frequency" OR RFA OR RTA OR RFTA OR microwave\* OR micro-wave\* OR "micro wave" OR MWA OR MCT OR PMCT OR PMWA OR laser\* OR LTA OR "High intensity focused ultrasound" OR "High intensity focussed ultrasound" OR HIFU OR cryoablat\* OR cryo-ablat\* OR cryotherap\* OR cryo-therap\* OR cryosurg\* OR cryo-surg\* OR "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT OR "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII OR electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER OR chemo-emboli\* OR chemoemboli\* OR "chemo embolization" OR "chemo embolisation" OR TACE OR cTACE OR DEBTACE OR DEB-TACE OR embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR loco-regional OR "loco regional" OR Therasphere\* OR Thera-sphere\* OR "Thera sphere" OR "Thera spheres" OR SIR-Sphere\* OR SIRSphere\* OR "SIR sphere" OR "SIR spheres" OR QuiremSphere\* OR Quirem-Sphere\* OR "Quirem sphere" OR "Quirem spheres" OR microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR radio-microsphere\* OR "radio microsphere" OR "radio microspheres" OR brachytherap\* OR brachy-therap\* OR "brachy therapy" OR microbrachytherap\* OR radioemboli\* OR radio-emboli\* OR radioembolotherap\* OR radio-embolotherap\* OR TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\*) OR abstract:(ablat\* OR radiofrequenc\* OR radio-frequenc\* OR "radio frequency" OR RFA OR RTA OR RFTA OR microwave\* OR micro-wave\* OR "micro wave" OR MWA OR MCT OR PMCT OR PMWA OR laser\* OR LTA OR "High intensity focused ultrasound" OR "High intensity focussed ultrasound" OR HIFU OR cryoablat\* OR cryo-ablat\* OR cryotherap\* OR cryo-therap\* OR cryosurg\* OR cryo-surg\* OR "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT OR "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII OR electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER OR chemo-emboli\* OR chemoemboli\* OR "chemo embolization" OR "chemo embolisation" OR TACE OR cTACE OR DEBTACE OR DEB-TACE OR embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR loco-regional OR "loco regional" OR Therasphere\* OR Thera-sphere\* OR "Thera sphere" OR "Thera spheres" OR SIR-Sphere\* OR SIRSphere\* OR "SIR sphere" OR "SIR spheres" OR QuiremSphere\* OR Quirem-Sphere\* OR "Quirem sphere" OR "Quirem spheres" OR microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR radio-microsphere\* OR "radio microsphere" OR "radio microspheres" OR brachytherap\* OR brachy-therap\* OR "brachy therapy" OR microbrachytherap\* OR radioemboli\* OR radio-emboli\* OR radioembolotherap\* OR radio-embolotherap\* OR TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\*))

Filtered by date – 2000-2021

Filtered by publication type – SRs

**Key:**

\* = truncation

**International Prospective Register of Systematic Reviews (PROSPERO)**

via <https://www.crd.york.ac.uk/prospero/>

Date range: Inception – 2<sup>nd</sup> February 2021

Date searched: 3<sup>rd</sup> February 2021

Records retrieved: 213

- #1 MeSH DESCRIPTOR Carcinoma, Hepatocellular 173
- #2 MeSH DESCRIPTOR Liver Neoplasms 248
- #3 ((liver or hepatocellular or hepato-cellular or hepatic\*) AND (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):TI,KW 476
- #4 (HCC or sHCC or eHCC or hepatocellularcarcinoma\* or hepatocarcinoma\* or hepatocarcinoma\* or hepatoma\*):TI,KW 52
- #5 #1 OR #2 OR #3 OR #4 512
- #6 MeSH DESCRIPTOR Radiofrequency Ablation 4
- #7 MeSH DESCRIPTOR Catheter Ablation 91
- #8 MeSH DESCRIPTOR Radiofrequency Therapy 2
- #9 MeSH DESCRIPTOR Microwaves 10
- #10 MeSH DESCRIPTOR Laser therapy 67
- #11 MeSH DESCRIPTOR High-Intensity Focused Ultrasound Ablation 3
- #12 MeSH DESCRIPTOR Ultrasonic therapy 9
- #13 MeSH DESCRIPTOR Cryosurgery 19
- #14 MeSH DESCRIPTOR Cryotherapy 20
- #15 MeSH DESCRIPTOR Ethanol 112
- #16 MeSH DESCRIPTOR acetic acid 6
- #17 MeSH DESCRIPTOR Acetates 11
- #18 MeSH DESCRIPTOR electroporation 3
- #19 MeSH DESCRIPTOR Ablation Techniques 18
- #20 ablat\* OR radiofrequenc\* OR radio-frequenc\* OR RFA OR RTA OR RFTA 929
- #21 microwave\* OR micro-wave\* OR MWA OR MCT OR PMCT OR PMWA 158
- #22 laser\* OR LTA OR "High intensity focused ultrasound" OR "High intensity focussed ultrasound" OR HIFU 1675
- #23 cryoablat\* OR cryo-ablat\* OR cryotherap\* OR cryo-therap\* OR cryosurg\* OR cryo-surg\* 300
- #24 "alcohol injection" OR "ethanol injection" OR "alcohol injections" OR "ethanol injections" OR PEI OR PEIT 296
- #25 "acetic acid injection" OR "acetic acid injections" OR PAI OR PAII 143
- #26 electroporation OR IRE OR stereotactic OR stereotaxic OR SABR OR SABRT OR SBRT OR SABER 320
- #27 #26 OR #25 OR #24 OR #23 OR #22 OR #21 OR #20 OR #19 OR #18 OR #17 OR #16 OR #15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 3340
- #28 #5 AND #27 133
- #29 MeSH DESCRIPTOR Chemoembolization, Therapeutic 26
- #30 MeSH DESCRIPTOR Embolization, Therapeutic 42
- #31 MeSH DESCRIPTOR Microspheres 5
- #32 MeSH DESCRIPTOR Brachytherapy 22
- #33 chemo-emboli\* OR chemoemboli\* OR TACE OR cTACE OR DEBTACE OR DEB-TACE 130
- #34 embolization\* OR embolisation\* OR embolize\* OR embolise\* OR embolizing\* OR embolising\* OR embolotherap\* OR TAE OR locoregional OR loco-regional 676
- #35 Therasphere\* OR Thera-sphere\* OR SIR-Sphere\* OR SIRSphere\* OR QuiremSphere\* OR Quirem-Sphere\* 3
- #36 microsphere\* OR sphere\* OR microbead\* OR bead\* OR radiomicrosphere\* OR radiomicrosphere\* 231
- #37 brachytherap\* OR brachy-therap\* OR microbrachytherap\* OR radioemboli\* OR radioemboli\* OR radioembolotherap\* OR radio-embolotherap\* 181
- #38 TARE OR SIRT OR "SIR therapy" OR "SIR therapies" OR "SIR treatment" OR "SIR treatments" OR "selective internal radiation" OR segmentectom\* OR lobectom\* 160
- #39 #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 1245
- #40 #39 AND #5 154

#41 #40 OR #28 213

**Key:**

MeSH DESCRIPTOR = subject heading (MeSH heading)

\* = truncation

adj3 = terms within 3 words of each other (order specified)

## Search Strategies for identification of RCTs of wider radiotherapy techniques (March 2021)

### MEDLINE ALL

(includes: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range: 1946 to 16<sup>th</sup> March 2021

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 399

The MEDLINE strategy below includes a search filter to limit retrieval to RCTs using the Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity-maximizing version (2008 revision); Ovid format.

Lefebvre C, Glanville J, Briscoe S, Littlewood A, Marshall C, Metzendorf M-I, Noel-Storr A, Rader T, Shokraneh F, Thomas J, Wieland LS. Technical Supplement to Chapter 4: Searching for and selecting studies. In: Higgins JPT, Thomas J, Chandler J, Cumpston MS, Li T, Page MJ, Welch VA (eds). *Cochrane Handbook for Systematic Reviews of Interventions* Version 6.2 (updated February 2021). Cochrane, 2021. Available from: [www.training.cochrane.org/handbook](http://www.training.cochrane.org/handbook).

- 1 Carcinoma, Hepatocellular/ (87724)
- 2 Liver Neoplasms/ (152378)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (151424)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (4202)
- 5 hepatoma\$.ti,ab. (28603)
- 6 HCC.ti,ab. (59303)
- 7 or/1-6 (235478)
- 8 Neoplasm Staging/ (178539)
- 9 (small\$ or early or earlystage?).ti,ab. (3174425)
- 10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (588)
- 11 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (77490)
- 12 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (4785)
- 13 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (125055)
- 14 (eHCC or sHCC).ti,ab. (254)
- 15 or/8-13 (3436575)
- 16 14 or (7 and 15) (50862)
- 17 Electrochemotherapy/ (673)
- 18 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabilization).ti,ab. (1115)
- 19 (electric\* adj2 stimulat\* adj2 (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)).ti,ab. (1260)
- 20 or/17-19 (2670)
- 21 histotripsy.ti,ab. (209)
- 22 Radiotherapy/ or Radiotherapy, Conformal/ or Radiotherapy, Intensity-Modulated/ or Radiotherapy, High-Energy/ or Radiotherapy, Image-Guided/ (72234)
- 23 (radiotherap\* or radiation-therap\* or radiation therap\*).ti,ab. (237815)
- 24 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*) adj4 (arc therap\* or arc-therap\*)).ti,ab. (2469)
- 25 (helical\* adj4 tomotherap\*).ti,ab. (1214)
- 26 or/22-25 (267755)
- 27 Proton Therapy/ (3960)
- 28 (proton\* adj4 therap\*).ti,ab. (7126)



- 29 or/27-28 (8349)
- 30 20 or 21 or 26 or 29 (275176)
- 31 16 and 30 (1887)
- 32 randomized controlled trial.pt. (525223)
- 33 controlled clinical trial.pt. (94097)
- 34 randomized.ab. (512974)
- 35 placebo.ab. (216151)
- 36 drug therapy.fs. (2290533)
- 37 randomly.ab. (353254)
- 38 trial.ab. (543763)
- 39 groups.ab. (2167571)
- 40 or/32-39 (4942795)
- 41 31 and 40 (496)
- 42 exp animals/ not humans.sh. (4800681)
- 43 41 not 42 (478)
- 44 limit 43 to yr="2000 -Current" (399)

**Key:**

- / = subject heading (MeSH heading)
- sh = subject heading (MeSH heading)
- exp = exploded subject heading (MeSH heading)
- \$ = truncation
- ? = optional wild card character - stands for zero or one characters
- ti,ab = terms in title or abstract fields
- adj3 = terms within three words of each other (any order)
- pt = publication type
- fs = floating subheading

**Embase**

via Ovid <http://ovidsp.ovid.com/>  
 Date range: 1974 to 16<sup>th</sup> March 2021  
 Date searched: 17<sup>th</sup> March 2021  
 Records retrieved: 413

The Embase strategy below includes the Cochrane Embase RCT filter (Ovid format).

Glanville J, Foxlee R, Wisniewski S, Noel-Storr A, Edwards M, Dooley G. [Translating the Cochrane EMBASE RCT filter from the Ovid interface to Embase.com: a case study.](#) *Health Info Libr J.* 2019 Jul 22. doi: 10.1111/hir.12269

- 1 liver cell carcinoma/ (164908)
- 2 liver cancer/ (34269)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (217280)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (5825)
- 5 hepatoma\$.ti,ab. (32625)
- 6 HCC.ti,ab. (96792)
- 7 or/1-6 (291316)
- 8 early cancer/ (18991)
- 9 cancer size/ (69849)
- 10 cancer staging/ (357155)
- 11 (small\$ or early or earlystage?).ti,ab. (4129554)
- 12 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (1747)

13 ("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$).ti,ab. (119627)  
14 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (15837)  
15 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (201318)  
16 (eHCC or sHCC).ti,ab. (390)  
17 or/8-15 (4607533)  
18 16 or (7 and 17) (77624)  
19 electrochemotherapy/ (1342)  
20 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabili?ation).ti,ab. (1430)  
21 (electric\* adj2 stimulat\* adj2 (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)).ti,ab. (1792)  
22 or/19-21 (3602)  
23 histotripsy.ti,ab. (307)  
24 radiotherapy/ or conformal radiotherapy/ or intensity modulated radiation therapy/ or megavoltage radiotherapy/ or image guided radiotherapy/ (181651)  
25 (radiotherap\* or radiation-therap\* or radiation therap\*).ti,ab. (362654)  
26 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*) adj4 (arc therap\* or arc-therap\*)).ti,ab. (4871)  
27 (helical\* adj4 tomotherap\*).ti,ab. (2361)  
28 or/24-27 (405023)  
29 proton therapy/ (9165)  
30 (proton\* adj4 therap\*).ti,ab. (12175)  
31 or/29-30 (14852)  
32 22 or 23 or 28 or 31 (416863)  
33 18 and 32 (3418)  
34 randomized controlled trial/ (652616)  
35 controlled clinical trial/ (466860)  
36 Random\$.ti,ab,ot. (1650636)  
37 randomization/ (90688)  
38 intermethod comparison/ (270029)  
39 placebo.ti,ab,ot. (322542)  
40 (compare or compared or comparison).ti,ot. (535093)  
41 ((evaluated or evaluate or evaluating or assessed or assess) and (compare or compared or comparing or comparison)).ab. (2280196)  
42 (open adj label).ti,ab,ot. (86377)  
43 ((double or single or doubly or singly) adj (blind or blinded or blindly)).ti,ab,ot. (243561)  
44 double blind procedure/ (182913)  
45 parallel group\$1.ti,ab,ot. (27255)  
46 (crossover or cross over).ti,ab,ot. (110369)  
47 ((assign\$ or match or matched or allocation) adj5 (alternate or group or groups or intervention or interventions or patient or patients or subject or subjects or participant or participants)).ti,ab,ot. (352016)  
48 (assigned or allocated).ti,ab,ot. (414659)  
49 (controlled adj7 (study or design or trial)).ti,ab,ot. (375207)  
50 (volunteer or volunteers).ti,ab,ot. (256628)  
51 human experiment/ (540618)  
52 trial.ti,ot. (325654)  
53 or/34-52 (5353148)  
54 33 and 53 (913)  
55 (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset\$).ti,ot. and animal experiment/ (1106807)  
56 Animal experiment/ not (human experiment/ or human/) (2323653)  
57 55 or 56 (2376844)

- 58 54 not 57 (878)
- 59 limit 58 to yr="2000 -Current" (854)
- 60 (conference abstract or "conference review").pt. (4075985)
- 61 59 not 60 (413)

**Key:**

- / = subject heading (Emtree heading)
- exp = exploded subject heading (Emtree heading)
- \$ = truncation
- ? = optional wild card character - stands for zero or one characters
- ti,ab = terms in title or abstract fields
- adj3 = terms within three words of each other (any order)
- adj = terms next to each other (in order specified)
- ot = original title field
- pt = publication type

**Cochrane Central Register of Controlled Trials (CENTRAL)**

via Wiley <http://onlinelibrary.wiley.com/>

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 206

- #1 MeSH descriptor: [Carcinoma, Hepatocellular] this term only 1776
- #2 MeSH descriptor: [Liver Neoplasms] this term only 2383
- #3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):ti,ab,kw 8607
- #4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 73
- #5 hepatoma\*:ti,ab,kw 132
- #6 HCC:ti,ab,kw 3379
- #7 {OR #1-#6} 9034
- #8 MeSH descriptor: [Neoplasm Staging] this term only 6470
- #9 (small\* or early or earlystage\*):ti,ab,kw 209536
- #10 (((BCLC or Barcelona next Clinic next Liver next Cancer) near/3 ("0" or "A" or A1 or A2 or A3 or A4) or "BCLC0-A"):ti,ab,kw 126
- #11 (("1" or "2" or "3" or one or two or three) next (cm\* or centimet\*)):ti,ab,kw 10404
- #12 (1cm\* or 2cm\* or 3cm\*):ti,ab,kw 1918
- #13 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) near/6 (size\* or diameter\*)):ti,ab,kw 8304
- #14 (eHCC or sHCC):ti,ab,kw 16
- #15 {OR #8-#13} 227675
- #16 #14 or (#7 and #15) 2276
- #17 MeSH descriptor: [Electrochemotherapy] this term only 10
- #18 (electrochemotherap\* or electro next chemotherap\* or electropemabili?ation):ti,ab,kw 50
- #19 (electric\* near/2 stimulat\* near/2 (therap\* or chemotherap\* or chemo next therap\* or treat\*)):ti,ab,kw 2662
- #20 {OR #17-#19} 2711
- #21 histotripsy:ti,ab,kw 1
- #22 MeSH descriptor: [Radiotherapy] this term only 1193
- #23 MeSH descriptor: [Radiotherapy, Conformal] this term only 355
- #24 MeSH descriptor: [Radiotherapy, Intensity-Modulated] this term only 261
- #25 MeSH descriptor: [Radiotherapy, High-Energy] this term only 297
- #26 MeSH descriptor: [Radiotherapy, Image-Guided] this term only 61
- #27 (radiotherap\* or radiation next therap\*):ti,ab,kw 36588
- #28 ((intensity next modulat\* or volumetric next modulat\*) near/4 (arc next therap\*)):ti,ab,kw 188
- #29 (helical\* near/4 tomotherap\*):ti,ab,kw 64

#30 {OR #22-#29} 36609  
 #31 MeSH descriptor: [Proton Therapy] this term only 44  
 #32 (proton\* near/4 therap\*):ti,ab,kw 1352  
 #33 {OR #31-#32} 1352  
 #34 #20 or #21 or #30 or #33 40339  
 #35 #16 and #34 221  
 with Publication Year from 2000 to 2021, in Trials 206

**Key:**

MeSH descriptor = indexing term (MeSH)  
 \* = truncation  
 ti,ab,kw = terms in either title or abstract or keyword fields  
 near/3 = terms within three words of each other (any order)  
 next = terms are next to each other.

**Science Citation Index**

via Web of Science, Clarivate Analytics <https://clarivate.com/>  
 Date range searched: 1900 – 18<sup>th</sup> March 2021  
 Date searched: 18<sup>th</sup> March 2021  
 Records retrieved: 746

# 30 #28 NOT #29 746  
 Indexes=SCI-EXPANDED Timespan=2000-2021  
 # 29 TI=(animal or animals or rat or rats or mouse or mice or rodent or rodents or porcine or murine or sheep or lamb or lambs or ewe or ewes or pig or pigs or piglet or piglets or sow or sows or minipig or minipigs or rabbit or rabbits or kitten or kittens or dog or dogs or puppy or puppies or monkey or monkeys or horse or horses or foal or foals or equine or calf or calves or cattle or heifer or heifers or hamster or hamsters or chicken or chickens or livestock or alpaca\* or llama\*) 1,391,130  
 Indexes=SCI-EXPANDED Timespan=2000-2021  
 # 28 #26 AND #25 773  
 Indexes=SCI-EXPANDED Timespan=2000-2021  
 # 27 #26 AND #25 825  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 26 TS=(random\* or control\* or trial\* or "single blind" or "double blind" or "triple blind" or placebo) 6,988,447  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 25 #24 AND #14 1,713  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 24 #23 OR #22 OR #18 292,868  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 23 TS=(proton\* NEAR/4 therap\*) 11,388  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 22 #21 OR #20 OR #19 283,146  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 21 TS=(helical\* NEAR/4 tomotherap\*) 2,521  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 20 TS=((intensity-modulat\* or "intensity modulat\*" or volumetric-modulat\* or "volumetric modulat\*") NEAR/4 ("arc therap\*" or arc-therap\*)) 3,054  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 19 TS=((radiotherap\* or radiation-therap\* or "radiation therap\*")) 281,566  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 18 #17 OR #16 OR #15 3,090  
 Indexes=SCI-EXPANDED Timespan=1900-2021  
 # 17 TS=(histotripsy) 323  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 16 TS=((electric-stimulation or "electric stimulation") NEAR/2 (therap\* or chemotherap\* or chemo-therap\* or "chemo therap\*" or treat\*)) 346  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 15 TS=(electrochemotherap\* or electro-chemotherap\* or "electro chemotherap\*" or electropermeabili\*) 2,421  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 14 #13 OR #12 44,159  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 13 TS=(eHCC or sHCC) 540  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 12 #11 AND #5 43,714  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 11 #10 OR #9 OR #8 OR #7 OR #65,372,729  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 10 TS=((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) NEAR/6 (size\* or diameter\*)) 104,187  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 9 TS=(1cm\* or 2cm\* or 3cm\*) 5,803  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 8 TS=("1" or "2" or "3" or one or two or three) NEAR/1 (cm or cms or centimet\*) 640,471  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 7 TS=((BCLC or "Barcelona Clinic Liver Cancer") NEAR/3 ("0" or "A" or "A1" or "A2" or "A3" or "A4")) or BCLC0-A 778  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 6 TS=(small\* or early or earlystage\$) 4,768,362  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 5 #4 OR #3 OR #2 OR #1 227,136  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 4 TS=HCC 57,992  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 3 TS=(hepatoma\*) 32,148  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 2 TS=(hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*) 4,143  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 1 TS=((liver or hepatocellular or hepato-cellular or hepatic\*) NEAR/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)) 194,773  
 Indexes=SCI-EXPANDED Timespan=1900-2021

**Key:**

TS= terms in either title, abstract, author keywords, and keywords plus fields

TI= search in title field

NEAR/3 = terms within three words of each other (any order).

\* = truncation

**International HTA database**

via <https://database.inahta.org/>

Date range: Inception – 16<sup>th</sup> March 2021

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 189

((Carcinoma, Hepatocellular)[mh] OR (Liver Neoplasms)[mh] OR (((liver or hepatocellular or hepato-cellular or hepatic\*) and (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*))) [Title] OR (((liver or hepatocellular or hepato-cellular or hepatic\*) and (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*))) [abs] OR (((liver or hepatocellular or hepato-

cellular or hepatic\*) and (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)))[Keywords] OR ((hepatocellularcarcinoma\* or hepatocarcinoma\* or hepatocarcinoma\*)))[Title] OR ((hepatocellularcarcinoma\* or hepatocarcinoma\* or hepatocarcinoma\*)))[abs] OR ((hepatocellularcarcinoma\* or hepatocarcinoma\* or hepatocarcinoma\*)))[Keywords] OR (hepatoma\*)[Title] OR (hepatoma\*)[abs] OR (hepatoma\*)[Keywords] OR ((HCC or eHCC or sHCC))[Title] OR ((HCC or eHCC or sHCC))[abs] OR ((HCC or eHCC or sHCC))[Keywords] FROM 2000 TO 2021) AND ((Electrochemotherapy)[mh] OR ((electrochemotherap\* or electro-chemotherap\* or "electro chemotherap\*" or electropermeabili\*)))[Title] OR ((electrochemotherap\* or electro-chemotherap\* or "electro chemotherap\*" or electropermeabili\*)))[abs] OR ((electrochemotherap\* or electro-chemotherap\* or "electro chemotherap\*" or electropermeabili\*)))[Keywords] OR (((electric-stimulation or "electric stimulation") and (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)))[Title] OR (((electric-stimulation or "electric stimulation") and (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)))[abs] OR (((electric-stimulation or "electric stimulation") and (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)))[Keywords] OR (histotripsy)[Title] OR (histotripsy)[abs] OR (histotripsy)[Keywords] OR (Radiotherapy)[mh] OR (Radiotherapy, Conformal)[mh] OR (Radiotherapy, Intensity-Modulated)[mh] OR (Radiotherapy, High-Energy)[mh] OR (Radiotherapy, Image-Guided)[mh] OR ((radiotherap\* or radiation-therap\* or "radiation therap\*")))[Title] OR ((radiotherap\* or radiation-therap\* or "radiation therap\*")))[abs] OR ((radiotherap\* or radiation-therap\* or "radiation therap\*")))[Keywords] OR (((intensity-modulat\* or "intensity modulat\*" or volumetric-modulat\* or "volumetric modulat\*") and ("arc therap\*" or arc-therap\*)))[Title] OR (((intensity-modulat\* or "intensity modulat\*" or volumetric-modulat\* or "volumetric modulat\*") and ("arc therap\*" or arc-therap\*)))[abs] OR (((intensity-modulat\* or "intensity modulat\*" or volumetric-modulat\* or "volumetric modulat\*") and ("arc therap\*" or arc-therap\*)))[Keywords] OR ("helical tomotherap\*"))[Title] OR ("helical tomotherap\*"))[abs] OR ("helical tomotherap\*"))[Keywords] OR (Proton Therapy)[mh] OR ("proton therap\*"))[Title] OR ("proton therap\*"))[abs] OR ("proton therap\*"))[Keywords] FROM 2000 TO 2021) with date limit applied: **189** references

**Key:**

[mh] = indexing term: Medical Subject Heading (MeSH)

[mhe] exploded MeSH heading

[Keywords] = search of keywords field

[abs] = search of abstract field

[Title] = search of title field

\* = truncation

**Cochrane Database of Systematic Reviews (CDSR)**

via Wiley <http://onlinelibrary.wiley.com/>

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 1

- #1 MeSH descriptor: [Carcinoma, Hepatocellular] this term only 1776
- #2 MeSH descriptor: [Liver Neoplasms] this term only 2383
- #3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):ti,ab,kw 8607
- #4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 73
- #5 hepatoma\*:ti,ab,kw 132
- #6 HCC:ti,ab,kw 3379
- #7 {OR #1-#6} 9034
- #8 MeSH descriptor: [Neoplasm Staging] this term only 6470
- #9 (small\* or early or earlystage\*):ti,ab,kw 209536
- #10 (((BCLC or Barcelona next Clinic next Liver next Cancer) near/3 ("0" or "A" or A1 or A2 or A3 or A4)) or "BCLC0-A"):ti,ab,kw 126
- #11 (("1" or "2" or "3" or one or two or three) next (cm\* or centimet\*)):ti,ab,kw 10404

- #12 (1cm\* or 2cm\* or 3cm\*):ti,ab,kw 1918
- #13 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) near/6 (size\* or diameter\*)):ti,ab,kw 8304
- #14 (eHCC or sHCC):ti,ab,kw 16
- #15 {OR #8-#13} 227675
- #16 #14 or (#7 and #15) 2276
- #17 MeSH descriptor: [Electrochemotherapy] this term only 10
- #18 (electrochemotherap\* or electro next chemotherap\* or electropermeabili?ation):ti,ab,kw 50
- #19 (electric\* near/2 stimulat\* near/2 (therap\* or chemotherap\* or chemo next therap\* or treat\*)):ti,ab,kw 2662
- #20 {OR #17-#19} 2711
- #21 histotripsy:ti,ab,kw 1
- #22 MeSH descriptor: [Radiotherapy] this term only 1193
- #23 MeSH descriptor: [Radiotherapy, Conformal] this term only 355
- #24 MeSH descriptor: [Radiotherapy, Intensity-Modulated] this term only 261
- #25 MeSH descriptor: [Radiotherapy, High-Energy] this term only 297
- #26 MeSH descriptor: [Radiotherapy, Image-Guided] this term only 61
- #27 (radiotherap\* or radiation next therap\*):ti,ab,kw 36588
- #28 ((intensity next modulat\* or volumetric next modulat\*) near/4 (arc next therap\*)):ti,ab,kw 188
- #29 (helical\* near/4 tomotherap\*):ti,ab,kw 64
- #30 {OR #22-#29} 36609
- #31 MeSH descriptor: [Proton Therapy] this term only 44
- #32 (proton\* near/4 therap\*):ti,ab,kw 1352
- #33 {OR #31-#32} 1352
- #34 #20 or #21 or #30 or #33 40339
- #35 #16 and #34 221

with Cochrane Library publication date from Jan 2020 to Mar 2021, in Cochrane Reviews 1

**Key:**

MeSH descriptor = subject heading (MeSH heading)

\* = truncation

ti,ab,kw = terms in title, abstract or keyword fields

near/3 = terms within three words of each other (any order)

next = terms are next to each other

**Database of Abstracts of Reviews of Effects (DARE)**

via <https://www.crd.york.ac.uk/CRDWeb/>

Date range searched: Inception to 31<sup>st</sup> March 2015.

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 17

- 1 MeSH DESCRIPTOR Carcinoma, Hepatocellular IN DARE 288
- 2 MeSH DESCRIPTOR Liver Neoplasms IN DARE 393
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\*) adj3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)) IN DARE 506
- 4 ((carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*) adj3 (liver or hepatocellular or hepato-cellular or hepatic\*)) IN DARE 384
- 5 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*) IN DARE 0
- 6 (hepatoma\*) IN DARE 2
- 7 (HCC or eHCC or sHCC) IN DARE 25
- 8 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 527
- 9 MeSH DESCRIPTOR Electrochemotherapy IN DARE 4
- 10 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabili\*) IN DARE 4

11 (electric\* NEAR2 stimulat\* NEAR2 (therap\* or chemotherap\* or chemo-therap\* or chemo-therap\* or treat\*)) IN DARE 188  
12 #9 OR #10 OR #11 192  
13 (histotripsy) IN DARE 0  
14 MeSH DESCRIPTOR Radiotherapy IN DARE 100  
15 MeSH DESCRIPTOR Radiotherapy, Conformal IN DARE 15  
16 MeSH DESCRIPTOR Radiotherapy, Intensity-Modulated IN DARE 17  
17 MeSH DESCRIPTOR Radiotherapy, High-Energy IN DARE 2  
18 MeSH DESCRIPTOR Radiotherapy, Image-Guided IN DARE 0  
19 (radiotherap\* or radiation-therap\* or radiation therap\*) IN DARE 1031  
20 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*) NEAR4 (arc therap\* or arc-therap\*)) IN DARE 0  
21 (helical\* NEAR4 tomotherap\*) IN DARE 1  
22 #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 1031  
23 MeSH DESCRIPTOR Proton Therapy IN DARE 2  
24 (proton\* NEAR4 (therap\* or radiotherap\* or radiation-therap\* or radiation therap\*)) IN DARE 109  
25 #23 OR #24 109  
26 #12 OR #13 OR #22 OR #25 1320  
27 #8 AND #26 19  
28 (#8 and #26) IN DARE FROM 2000 TO 2021 17

**Key:**

MeSH DESCRIPTOR = indexing term: Medical Subject Heading (MeSH)

EXPLODE ALL TREES = exploded indexing term (MeSH)

\* = truncation

NEAR3 = terms within three words of each other (only in the order specified).

**Epistemonikos**

via <https://www.epistemonikos.org/>

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 38

(title:((title:((title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC))) OR abstract:((title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC)))) OR abstract:((title:((title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC))) OR abstract:((title:(liver OR hepatocellular OR hepato-cellular OR hepatic\*) OR abstract:(liver OR hepatocellular OR hepato-cellular OR hepatic\*)) AND (title:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC) OR abstract:(hepatocellularcarcinoma\* OR hepatocarcinoma\* OR hepato-carcinoma\* OR hepatoma\* OR HCC OR eHCC OR sHCC)))))) AND (title:((title:((electrochemotherap\* OR electro-chemotherap\* OR "electro chemotherap\*" OR electropermeabili\*)) OR abstract:((electrochemotherap\* OR electro-chemotherap\* OR "electro chemotherap\*" OR electropermeabili\*)) OR (title:(((electric-stimulation OR "electric stimulation") AND (therap\* OR chemotherap\* OR chemo-therap\* OR chemo therap\* OR treat\*))) OR abstract:(((electric-stimulation OR "electric stimulation") AND (therap\* OR



chemotherap\* OR chemo-therap\* OR chemo therap\* OR treat\*))) OR (title:(histotripsy)) OR abstract:(histotripsy)) OR (title:(radiotherap\* OR radiation-therap\* OR "radiation therap\*")) OR abstract:(radiotherap\* OR radiation-therap\* OR "radiation therap\*")) OR (title:(intensity-modulat\* OR "intensity modulat\*" OR volumetric-modulat\* OR "volumetric modulat\*") AND ("arc therap\*" OR arc-therap\*)) OR abstract:(intensity-modulat\* OR "intensity modulat\*" OR volumetric-modulat\* OR "volumetric modulat\*" AND ("arc therap\*" OR arc-therap\*)) OR (title:(helical tomotherap\*)) OR abstract:(helical tomotherap\*)) OR (title:(proton therap\*)) OR abstract:(proton therap\*)) OR abstract:(title:(electrochemotherap\* OR electro-chemotherap\* OR "electro chemotherap\*" OR electropermeabili\*)) OR abstract:(electrochemotherap\* OR electro-chemotherap\* OR "electro chemotherap\*" OR electropermeabili\*)) OR (title:(electric-stimulation OR "electric stimulation") AND (therap\* OR chemotherap\* OR chemo-therap\* OR chemo therap\* OR treat\*)) OR abstract:(electric-stimulation OR "electric stimulation") AND (therap\* OR chemotherap\* OR chemo-therap\* OR chemo therap\* OR treat\*)) OR (title:(histotripsy)) OR abstract:(histotripsy)) OR (title:(radiotherap\* OR radiation-therap\* OR "radiation therap\*")) OR abstract:(radiotherap\* OR radiation-therap\* OR "radiation therap\*")) OR (title:(intensity-modulat\* OR "intensity modulat\*" OR volumetric-modulat\* OR "volumetric modulat\*") AND ("arc therap\*" OR arc-therap\*)) OR abstract:(intensity-modulat\* OR "intensity modulat\*" OR volumetric-modulat\* OR "volumetric modulat\*" AND ("arc therap\*" OR arc-therap\*)) OR (title:(helical tomotherap\*)) OR abstract:(helical tomotherap\*)) OR (title:(proton therap\*)) OR abstract:(proton therap\*))

38 results when narrowed to custom range 2000 – 2021, filtered by publication type: systematic reviews

**Key:**

\* = truncation

title: = searches in title field

abstract: = searches in abstract field

**PROSPERO**

via <https://www.crd.york.ac.uk/prospero/>

Date range: Inception – 16<sup>th</sup> March 2021

Date searched: 17<sup>th</sup> March 2021

Records retrieved: 27

- #1 MeSH DESCRIPTOR Carcinoma, Hepatocellular 178
- #2 MeSH DESCRIPTOR Liver Neoplasms 254
- #3 ((liver or hepatocellular or hepato-cellular or hepatic\*) AND (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):TI,KW 493
- #4 (HCC or sHCC or eHCC or hepatocellularcarcinoma\* or hepatocarcinoma\* or hepatocarcinoma\* or hepatoma\*):TI,KW 54
- #5 #1 OR #2 OR #3 OR #4 530
- #6 MeSH DESCRIPTOR Electrochemotherapy 2
- #7 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabili\*):TI,KW 7
- #8 (electric\* adj2 stimulat\* adj2 (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)):TI,KW 59
- #9 #6 OR #7 OR #8 66
- #10 histotripsy:TI,KW 0
- #11 MeSH DESCRIPTOR Radiotherapy 68
- #12 MeSH DESCRIPTOR Radiotherapy, Conformal 2
- #13 MeSH DESCRIPTOR Radiotherapy, Intensity-Modulated 6
- #14 MeSH DESCRIPTOR Radiotherapy, High-Energy 0
- #15 MeSH DESCRIPTOR Radiotherapy, Image-Guided 4
- #16 (radiotherap\* or radiation-therap\* or radiation therap\*):TI,KW 542

#17 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*)  
 adj4 (arc therap\* or arc-therap\*)):TI,KW 1  
 #18 (helical\* adj4 tomotherap\*):TI,KW 0  
 #19 #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 566  
 #20 MeSH DESCRIPTOR Proton Therapy 9  
 #21 (proton\* adj4 (therap\* or radiotherap\* or radiation-therap\* or radiation therap\*)):TI,KW 24  
 #22 #20 OR #21 24  
 #23 #9 OR #10 OR #19 OR #22 646  
 #24 #5 AND #23 27

**Key:**

MeSH DESCRIPTOR = indexing term: Medical Subject Heading (MeSH)

EXPLODE ALL TREES = exploded indexing term (MeSH)

\* = truncation

adj3 = terms within three words of each other (order specified).

:TI,KW = terms in either title or keyword fields

**ClinicalTrials.gov**

via <https://clinicaltrials.gov/>

Date searched: 27<sup>th</sup> April 2021

Three separate searches were used, retrieving 149 records in total, which were imported into EndNote 20 and deduplicated.

Search Strategies:

1. eHCC OR sHCC = **3 hits**  
**Limited to:** Interventional Studies  
**First Posted:** 01/01/2010 to 03/04/2023
  
2. (hepatocellularcarcinoma OR hepatoma OR HCC OR hepatocarcinoma OR "hepatocellular carcinoma" OR "liver cancer" OR "hepatic tumor") AND (small OR early OR "early stage") = **104 hits**  
**Limited to:** Interventional Studies  
**First Posted:** 01/01/2010 to 03/04/2023
  
3. (hepatocellularcarcinoma OR hepatoma OR HCC OR hepatocarcinoma OR "hepatocellular carcinoma" OR "liver cancer" OR "hepatic tumor") AND (less OR "equal to" OR diameter OR measure OR "no more than" OR size OR under OR "≤" OR "<" OR cm OR mm) = **42 hits**  
**Limited to:** Interventional Studies  
**First Posted:** 01/01/2010 to 03/04/2023

**European Union Clinical Trials Register**

via [www.clinicaltrialsregister.eu/ctr-search/search](http://www.clinicaltrialsregister.eu/ctr-search/search)

Date searched: 27<sup>th</sup> April 2021

Two separate searches were used, retrieving 64 records in total, which were imported into EndNote 20 and deduplicated.

Search Strategies:

1. (eHCC OR sHCC) = **0 hits**  
**Limited to:** 01/01/2010 - 27/04/2021
  
2. (hepatocellularcarcinoma OR hepatoma OR HCC OR hepatocarcinoma OR "hepatocellular carcinoma" OR "liver cancer" OR "hepatic tumor") AND (small OR early) = **64 hits**  
**Limited to:** 01/01/2010 - 27/04/2021

## 1.2: Search strategies for identification of non-randomised studies where RCT evidence was not available

The following databases were searched:

- MEDLINE ALL (Ovid)
- Embase (Ovid)
- Cochrane Central Register of Controlled Trials (CENTRAL) (Wiley)
- Science Citation Index (Web of Science)

Search strategies for each database can be found below.

### MEDLINE ALL

(includes: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range: 1946 to 27<sup>th</sup> July 2021

Date searched: 28<sup>th</sup> July 2021

Records retrieved: 1139

- 1 Carcinoma, Hepatocellular/ (90761)
- 2 Liver Neoplasms/ (156595)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (156050)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (4256)
- 5 hepatoma\$.ti,ab. (28811)
- 6 HCC.ti,ab. (61752)
- 7 or/1-6 (241089)
- 8 Neoplasm Staging/ (182051)
- 9 (small\$ or early or earlystage?).ti,ab. (3247367)
- 10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (617)
- 11 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (79017)
- 12 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (4905)
- 13 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (128094)
- 14 (eHCC or sHCC).ti,ab. (265)
- 15 or/8-13 (3515054)
- 16 14 or (7 and 15) (52166)
- 17 High-Intensity Focused Ultrasound Ablation/ (1845)
- 18 Ultrasonic Therapy/ (9862)
- 19 High intensity focus?ed ultrasound.ti,ab. (3223)
- 20 HIFU.ti,ab. (2524)
- 21 or/17-20 (13202)
- 22 16 and 21 (133)
- 23 Cryosurgery/ (13402)
- 24 Cryotherapy/ (5359)
- 25 (cryoablat\$ or cryo-ablat\$ or cryotherap\$ or cryo-therap\$ or cryosurg\$ or cryo-surg\$).ti,ab. (14771)
- 26 or/23-25 (23935)
- 27 16 and 26 (323)
- 28 Electroporation/ (8248)
- 29 electroporation.ti,ab. (10923)
- 30 IRE.ti,ab. (2244)

- 31 or/28-30 (15583)  
 32 16 and 31 (133)  
 33 ((stereotactic or stereotaxic) adj3 ablat\$).ti,ab. (1364)  
 34 ((stereotactic or stereotaxic) adj3 (radiotherap\$ or radiation)).ti,ab. (10149)  
 35 (SABR or SABRT).ti,ab. (859)  
 36 SBRT.ti,ab. (4543)  
 37 SABER.ti,ab. (421)  
 38 or/33-37 (11398)  
 39 16 and 38 (456)  
 40 Electrochemotherapy/ (698)  
 41 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabili?ation).ti,ab. (1153)  
 42 (electric\* adj2 stimulat\* adj2 (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)).ti,ab. (1304)  
 43 40 or 41 or 42 (2757)  
 44 16 and 43 (25)  
 45 histotripsy.ti,ab. (230)  
 46 16 and 45 (7)  
 47 Radiotherapy, Conformal/ or Radiotherapy, Intensity-Modulated/ or Radiotherapy, High-Energy/ or Radiotherapy, Image-Guided/ (30927)  
 48 ((radiotherap\* or radiation-therap\* or radiation therap\*) adj3 (conformal or intensity-modulat\* or intensity modulat\* or high-energy or high energy)).ti,ab. (14403)  
 49 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*) adj4 (arc therap\* or arc-therap\*)).ti,ab. (2595)  
 50 (helical\* adj4 tomotherap\*).ti,ab. (1237)  
 51 47 or 48 or 49 or 50 (36559)  
 52 16 and 51 (274)  
 53 Proton Therapy/ (4266)  
 54 (proton\* adj4 therap\*).ti,ab. (7420)  
 55 53 or 54 (8702)  
 56 16 and 55 (106)  
 57 22 or 27 or 32 or 39 or 44 or 46 or 52 or 56 (1292)  
 58 exp animals/ not humans.sh. (4866074)  
 59 57 not 58 (1226)  
 60 limit 59 to yr="2000-Current" (1139)

**Key:**

- / = subject heading (MeSH heading)  
 sh = subject heading (MeSH heading)  
 exp = exploded subject heading (MeSH heading)  
 \$ = truncation  
 \* = truncation  
 ? = optional wild card character - stands for zero or one characters  
 ti,ab = terms in title or abstract fields  
 adj3 = terms within three words of each other (any order)

**Embase**

via Ovid <http://ovidsp.ovid.com/>  
 Date range: 1974 to 27<sup>th</sup> July 2021  
 Date searched: 28<sup>th</sup> July 2021  
 Records retrieved: 1478

- 1 liver cell carcinoma/ (168086)  
 2 liver cancer/ (34910)

3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (220784)

4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (5854)

5 hepatoma\$.ti,ab. (32611)

6 HCC.ti,ab. (98647)

7 or/1-6 (296319)

8 early cancer/ (19542)

9 cancer size/ (71752)

10 cancer staging/ (370238)

11 (small\$ or early or earlystage?).ti,ab. (4199719)

12 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (1789)

13 ("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (121273)

14 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (16200)

15 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (204858)

16 (eHCC or sHCC).ti,ab. (392)

17 or/8-15 (4690278)

18 16 or (7 and 17) (79077)

19 high intensity focused ultrasound/ (5769)

20 High intensity focus?ed ultrasound.ti,ab. (4546)

21 HIFU.ti,ab. (4116)

22 or/19-21 (7099)

23 18 and 22 (203)

24 cryoablation/ (8149)

25 cryotherapy/ (19183)

26 exp cryosurgery/ (9037)

27 (cryoablat\$ or cryo-ablat\$ or cryotherap\$ or cryo-therap\$ or cryosurg\$ or cryo-surg\$).ti,ab. (21188)

28 or/24-27 (39037)

29 18 and 28 (614)

30 irreversible electroporation/ (1012)

31 electroporation.ti,ab. (14563)

32 IRE.ti,ab. (3563)

33 or/30-32 (17116)

34 18 and 33 (256)

35 stereotactic body radiation therapy/ (15509)

36 ((stereotactic or stereotaxic) adj3 ablat\$).ti,ab. (2756)

37 ((stereotactic or stereotaxic) adj3 (radiotherap\$ or radiation)).ti,ab. (19020)

38 SABR.ti,ab. (2162)

39 (SBRT or SABRT).ti,ab. (11330)

40 SABER.ti,ab. (317)

41 or/35-40 (25313)

42 18 and 41 (1166)

43 electrochemotherapy/ (1393)

44 (electrochemotherap\* or electro-chemotherap\* or electro chemotherap\* or electropermeabili?ation).ti,ab. (1463)

45 (electric\* adj2 stimulat\* adj2 (therap\* or chemotherap\* or chemo-therap\* or chemo therap\* or treat\*)).ti,ab. (1836)

46 or/43-45 (3696)

47 18 and 46 (24)

48 histotripsy.ti,ab. (327)

49 18 and 48 (12)

50 conformal radiotherapy/ or intensity modulated radiation therapy/ or megavoltage radiotherapy/ or image guided radiotherapy/ (41171)

- 51 ((radiotherap\* or radiation-therap\* or radiation therap\*) adj3 (conformal or intensity-modulat\* or intensity modulat\* or high-energy or high energy)).ti,ab. (23370)
- 52 ((intensity-modulat\* or intensity modulat\* or volumetric-modulat\* or volumetric modulat\*) adj4 (arc therap\* or arc-therap\*)).ti,ab. (5025)
- 53 (helical\* adj4 tomotherap\*).ti,ab. (2394)
- 54 or/50-53 (51257)
- 55 18 and 54 (450)
- 56 proton therapy/ (9618)
- 57 (proton\* adj4 therap\*).ti,ab. (12554)
- 58 56 or 57 (15399)
- 59 18 and 58 (228)
- 60 23 or 29 or 34 or 42 or 47 or 49 or 55 or 59 (2536)
- 61 (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset\$).ti,ot. (2186527)
- 62 (animal/ or animal experiment/ or animal model/ or animal tissue/ or nonhuman/) not exp human/ (6263859)
- 63 61 or 62 (6681739)
- 64 60 not 63 (2429)
- 65 (conference abstract or "conference review").pt. (4150302)
- 66 64 not 65 (1550)
- 67 limit 66 to yr="2000 -Current" (1478)

**Key:**

- / = subject heading (Emtree heading)  
 exp = exploded subject heading (Emtree heading)  
 \$ = truncation  
 \* = truncation  
 ? = optional wild card character - stands for zero or one characters  
 ti,ab = terms in title or abstract fields  
 adj3 = terms within three words of each other (any order)  
 adj = terms next to each other (in order specified)  
 ot = other title field  
 pt = publication type

**Cochrane Central Register of Controlled Trials (CENTRAL)**

via Wiley <http://onlinelibrary.wiley.com/>

Date range: Issue 7 of 12, July 2021

Date searched: 28<sup>th</sup> July 2020

Records retrieved: 118

- #1 MeSH descriptor: [Carcinoma, Hepatocellular] this term only 1817
- #2 MeSH descriptor: [Liver Neoplasms] this term only 2437
- #3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)):ti,ab,kw 8849
- #4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 79
- #5 hepatoma\*:ti,ab,kw 133
- #6 HCC:ti,ab,kw 3503
- #7 {OR #1-#6} 9290
- #8 MeSH descriptor: [Neoplasm Staging] this term only 6567
- #9 (small\* or early or earlystage\*):ti,ab,kw 215571
- #10 (((BCLC or Barcelona next Clinic next Liver next Cancer) near/3 ("0" or "A" or A1 or A2 or A3 or A4)) or "BCLC0-A"):ti,ab,kw 133
- #11 (("1" or "2" or "3" or one or two or three) next (cm\* or centimet\*)):ti,ab,kw 10765
- #12 (1cm\* or 2cm\* or 3cm\*):ti,ab,kw 1996

#13 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) near/6 (size\* or diameter\*)):ti,ab,kw 8589

#14 (eHCC or sHCC):ti,ab,kw 16

#15 {OR #8-#13} 234249

#16 #14 or (#7 and #15) 2356

#17 MeSH descriptor: [High-Intensity Focused Ultrasound Ablation] this term only 47

#18 MeSH descriptor: [Ultrasonic Therapy] this term only 806

#19 High next intensity next focus?ed next ultrasound:ti,ab,kw 240

#20 HIFU:ti,ab,kw 182

#21 {OR #17-#20} 1054

#22 #16 AND #21 8

#23 MeSH descriptor: [Cryosurgery] this term only 354

#24 MeSH descriptor: [Cryotherapy] this term only 717

#25 (cryoablat\* or cryo next ablat\* or cryotherap\* or cryo next therap\* or cryosurg\* or cryo next surg\*):ti,ab,kw 2979

#26 #23 or #24 or #25 2979

#27 #16 and #26 27

#28 MeSH descriptor: [Electroporation] this term only 27

#29 electroporation:ti,ab,kw 212

#30 IRE:ti,ab,kw 161

#31 {OR #28-#30} 332

#32 #16 and #31 4

#33 ((stereotactic or stereotaxic) near/3 ablat\*):ti,ab,kw 219

#34 ((stereotactic or stereotaxic) near/3 (radiotherap\* or radiation)):ti,ab,kw 1126

#35 (SABR or SABRT):ti,ab,kw 191

#36 SBRT:ti,ab,kw 653

#37 SABER:ti,ab,kw 578

#38 {OR #33-#37} 1815

#39 #16 and #38 59

#40 MeSH descriptor: [Electrochemotherapy] this term only 10

#41 (electrochemotherap\* or electro next chemotherap\* or electropermeabili?ation):ti,ab,kw 54

#42 (electric\* near/2 stimulat\* near/2 (therap\* or chemotherap\* or chemo next therap\* or treat\*)):ti,ab,kw 2717

#43 {OR #40-#42} 2770

#44 #16 and #43 0

#45 histotripsy:ti,ab,kw 1

#46 #16 and #45 0

#47 MeSH descriptor: [Radiotherapy, Conformal] this term only 359

#48 MeSH descriptor: [Radiotherapy, Intensity-Modulated] this term only 277

#49 MeSH descriptor: [Radiotherapy, High-Energy] this term only 298

#50 MeSH descriptor: [Radiotherapy, Image-Guided] this term only 62

#51 ((radiotherap\* or radiation-therap\* or radiation next therap\*) near/3 (conformal or intensity-modulat\* or intensity next modulat\* or high-energy or high next energy)):ti,ab,kw 2776

#52 ((intensity next modulat\* or volumetric next modulat\*) near/4 (arc next therap\*)):ti,ab,kw 204

#53 (helical\* near/4 tomotherap\*):ti,ab,kw 64

#54 {OR #47-#53} 2937

#55 #16 and #54 25

#56 MeSH descriptor: [Proton Therapy] this term only 46

#57 (proton\* near/4 therap\*):ti,ab,kw 1374

#58 #56 or #57 1374

#59 #16 and #58 16

#60 #22 or #27 or #32 or #39 or #44 or #46 or #55 or #59 122

#61 #22 or #27 or #32 or #39 or #44 or #46 or #55 or #59 with Publication Year from 2000 to 2021, in Trials 118

**Key:**

MeSH descriptor = subject heading (MeSH heading)

\* = truncation

ti,ab,kw = terms in title, abstract or keyword fields

near/3 = terms within three words of each other (any order)

next = terms are next to each other

**Science Citation Index**

via Web of Science, Clarivate Analytics <https://clarivate.com/>

Date range: 1900 – 27<sup>th</sup> July 2021

Date searched: 28<sup>th</sup> July 2021

Records retrieved: 1273

# 41 1,273 #38 not #39  
# 40 1,351 #38 not #39  
# 39 3,009,456 TI=(animal or animals or rat or rats or mouse or mice or rodent or rodents or porcine or murine or sheep or lamb or lambs or ewe or ewes or pig or pigs or piglet or piglets or sow or sows or minipig or minipigs or rabbit or rabbits or kitten or kittens or dog or dogs or puppy or puppies or monkey or monkeys or horse or horses or foal or foals or equine or calf or calves or cattle or heifer or heifers or hamster or hamsters or chicken or chickens or livestock or alpaca\* or llama\*)  
# 38 1,433 #37 OR #35 OR #30 OR #28 OR #24 OR #20 OR #18 OR #16  
# 37 125 #36 AND #14  
# 36 11,814 TS=(proton\* NEAR/4 therap\*)  
# 35 212 #34 AND #14  
# 34 26,305 #33 OR #32 OR #31  
# 33 2,561 TS=(helical\* NEAR/4 tomotherap\*)  
# 32 3,173 TS=((intensity-modulat\* or "intensity modulat\*" or volumetric-modulat\* or "volumetric modulat\*") NEAR/4 ("arc therap\*" or arc-therap\* )  
# 31 22,863 TS=((radiotherap\* or radiation-therap\* or "radiation therap\*") NEAR/3 (conformal or intensity-modulat\* or "intensity modulat\*" or high-energy or "high energy" )  
# 30 9 #29 AND #14  
# 29 336 TS=(histotripsy)  
# 28 32 #27 AND #14  
# 27 2,824 #26 OR #25  
# 26 356 TS=((electric-stimulation or "electric stimulation") NEAR/2 (therap\* or chemotherap\* or chemo-therap\* or "chemo therap\*" or treat\* )  
# 25 2,468 TS=(electrochemotherap\* or electro-chemotherap\* or "electro chemotherap\*" or electropemabili\*)  
# 24 507 #23 AND #14  
# 23 23,262 #22 OR #21  
# 22 10,957 TS=(SABR or SBRT or SABER)  
# 21 18,076 TS=((stereotactic or stereotaxic) NEAR/3 (ablat\* or inject\* or radiotherap\* or radiation) )  
# 20 240 #19 AND #14  
# 19 23,236 TS=(electroporation or IRE)  
# 18 373 #17 AND #14  
# 17 15,866 TS=(cryoablat\* or cryo-ablat\* or cryotherap\* or cryo-therap\* or cryosurg\* or cryo-surg\*)  
# 16 150 #15 AND #14  
# 15 4,315 TS=("High intensity focused ultrasound" or "High intensity focussed ultrasound" or HIFU)  
# 14 49,429 #13 OR #12  
# 13 576 TS=(eHCC or sHCC)  
# 12 48,957 #11 AND #5



# 11 5,579,571 #10 OR #9 OR #8 OR #7 OR #6  
 # 10 211,833 TS=((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) and (size\* or diameter\*)) )  
 # 9 5,957 TS=(1cm\* or 2cm\* or 3cm\*)  
 # 8 657,773 TS=("1" or "2" or "3" or one or two or three) NEAR/1 (cm or cms or centimet\*) )  
 # 7 831 TS((((BCLC or "Barcelona-Clinic Liver Cancer") NEAR/3 ("0" or "A" or "A1" or "A2" or "A3" or "A4") ) or BCLC0-A)  
 # 6 4,891,436 TS=(small\* or early or earlystage\*)  
 # 5 233,423 #4 OR #3 OR #2 OR #1  
 # 4 60,721 TS=HCC  
 # 3 32,399 TS=(hepatoma\*)  
 # 2 4,219 TS=(hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*)  
 # 1 200,719 TS=((liver or hepatocellular or hepato-cellular or hepatic\*) NEAR/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*) )

**Key:**

TS = topic tag; searches in title, abstract, author keywords and keywords plus fields

TI = search in title field

\* = truncation

NEAR/4 = terms within four words of

### 1.3: Search strategies for identification of non-randomised studies where additional evidence could plausibly change the NMA result, as identified by the threshold analysis

The following databases were searched:

- MEDLINE ALL (Ovid)
- Embase (Ovid)
- Cochrane Central Register of Controlled Trials (CENTRAL) (Wiley)
- Science Citation Index (Web of Science)

Search strategies for each database can be found below.

#### MEDLINE ALL

(includes: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range: 1946 to 23<sup>rd</sup> August 2021

Date searched: 24<sup>th</sup> August 2021

Records retrieved: 2539

- 1 Carcinoma, Hepatocellular/ (91350)
- 2 Liver Neoplasms/ (157448)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (156958)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (4266)
- 5 hepatoma\$.ti,ab. (28844)
- 6 HCC.ti,ab. (62236)
- 7 or/1-6 (242196)
- 8 Neoplasm Staging/ (182692)
- 9 (small\$ or early or earlystage?).ti,ab. (3261749)
- 10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (628)
- 11 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (79327)
- 12 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (4920)
- 13 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (128670)
- 14 (eHCC or sHCC).ti,ab. (268)
- 15 or/8-13 (3530492)
- 16 14 or (7 and 15) (52397)
- 17 Laser Therapy/ (38954)
- 18 (laser\$ adj2 ablat\$).ti,ab. (10374)
- 19 LTA.ti,ab. (3598)
- 20 or/17-19 (49955)
- 21 Radiofrequency Ablation/ (1620)
- 22 Catheter Ablation/ (34863)
- 23 Radiofrequency Therapy/ (1141)
- 24 ((radiofrequenc\$ or radio frequenc\$) adj3 ablat\$).ti,ab. (21317)
- 25 RFA.ti,ab. (7252)
- 26 RF ablation.ti,ab. (2534)
- 27 RTA.ti,ab. (2555)
- 28 RFTA.ti,ab. (63)
- 29 or/21-28 (47522)
- 30 Microwaves/ (18128)
- 31 (microwave\$ or micro wave\$).ti,ab. (39869)

- 32 (MWA or MCT or PMCT or PMWA).ti,ab. (8015)
- 33 or/30-32 (49569)
- 34 Carcinoma, Hepatocellular/su (13662)
- 35 Liver Neoplasms/su (27831)
- 36 Hepatectomy/ (31584)
- 37 Surgical Procedures, Operative/ (56264)
- 38 ((surgical\$ or surger\$ or operat\$ or resect\$) adj6 (carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$ or neoplasm\$ or liver\$ or lobe\$)).ti,ab. (257196)
- 39 (hepatectom\$ or hemi-hepatectom\$ or hemihepatectom\$ or lobectom\$ or microlobectom\$ or micro-lobectom\$ or segmentectom\$ or trisegmentectom\$).ti,ab. (46091)
- 40 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$ or neoplasm\$ or liver\$ or lobe\$) adj4 (excis\$ or remov\$ or dissect\$)).ti,ab. (71760)
- 41 or/34-40 (396793)
- 42 20 and (29 or 33 or 41) (3589)
- 43 29 and (20 or 33 or 41) (8135)
- 44 33 and (20 or 29 or 41) (2905)
- 45 41 and (20 or 29 or 33) (9295)
- 46 16 and (42 or 43 or 44 or 45) (2696)
- 47 exp animals/ not humans/ (4877412)
- 48 46 not 47 (2619)
- 49 limit 48 to yr="2000-Current" (2539)

**Key:**

- / = indexing term (Medical Subject Heading: MeSH)
- /su = indexing term with subheading for surgery
- exp = exploded indexing term (MeSH)
- \$ = truncation
- ti,ab = terms in either title or abstract fields
- adj3 = terms within three words of each other (any order).

**Embase**

via Ovid <http://ovidsp.ovid.com/>  
 Date range searched: 1974 to 23<sup>rd</sup> August 2021  
 Date searched: 24<sup>th</sup> August 2021  
 Records retrieved: 4590

- 1 liver cell carcinoma/ (168965)
- 2 liver cancer/ (35064)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (221802)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (5854)
- 5 hepatoma\$.ti,ab. (32649)
- 6 HCC.ti,ab. (99194)
- 7 or/1-6 (297653)
- 8 early cancer/ (19616)
- 9 cancer size/ (72546)
- 10 cancer staging/ (374162)
- 11 (small\$ or early or earlystage?).ti,ab. (4218149)
- 12 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (1804)
- 13 ("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (121782)
- 14 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (16322)
- 15 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (205794)
- 16 (eHCC or sHCC).ti,ab. (393)

- 17 or/8-15 (4712290)
- 18 16 or (7 and 17) (79458)
- 19 laser surgery/ or laser thermotherapy/ (30454)
- 20 low level laser therapy/ (25651)
- 21 (laser\$ adj2 ablat\$.ti,ab. (12210)
- 22 LTA.ti,ab. (5215)
- 23 or/19-22 (65818)
- 24 radiofrequency ablation/ or radiofrequency catheter ablation/ (37184)
- 25 ((radiofrequenc\$ or radio frequenc\$) adj3 ablat\$.ti,ab. (35113)
- 26 RFA.ti,ab. (14031)
- 27 RF ablation.ti,ab. (4929)
- 28 RTA.ti,ab. (3331)
- 29 RFTA.ti,ab. (115)
- 30 or/24-29 (56501)
- 31 microwave thermotherapy/ (2707)
- 32 (microwave\$ or micro wave\$.ti,ab. (43820)
- 33 (MWA or MCT or PMCT or PMWA).ti,ab. (12766)
- 34 or/31-33 (55473)
- 35 liver cell carcinoma/su (21034)
- 36 liver cancer/su (2308)
- 37 liver resection/ (51316)
- 38 surgery/ (612894)
- 39 ((surgical\$ or surger\$ or operat\$ or resect\$) adj6 (carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$ or neoplasm\$ or liver\$ or lobe\$)).ti,ab. (367901)
- 40 (hepatectom\$ or hemi-hepatectom\$ or hemihepatectom\$ or lobectom\$ or microlobectom\$ or micro-lobectom\$ or segmentectom\$ or trisegmentectom\$.ti,ab. (63731)
- 41 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$ or neoplasm\$ or liver\$ or lobe\$) adj4 (excis\$ or remov\$ or dissect\$)).ti,ab. (98655)
- 42 or/35-41 (1005315)
- 43 23 and (30 or 34 or 42) (6759)
- 44 30 and (23 or 34 or 42) (14992)
- 45 34 and (23 or 30 or 42) (4257)
- 46 42 and (23 or 30 or 34) (18660)
- 47 18 and (43 or 44 or 45 or 46) (4722)
- 48 animal/ (1523652)
- 49 exp animal experiment/ (2729884)
- 50 nonhuman/ (6631716)
- 51 (rat or rats or mouse or mice or hamster or hamsters or animal or animals or dog or dogs or cat or cats or bovine or sheep).ti,ab,sh. (5972937)
- 52 or/48-51 (9413063)
- 53 exp human/ (22621978)
- 54 human experiment/ (551250)
- 55 53 or 54 (22623888)
- 56 52 not (52 and 55) (6771101)
- 57 47 not 56 (4661)
- 58 limit 57 to yr="2000-Current" (4590)

**Key:**

- / or .sh. = indexing term (Emtree Subject Heading)
- exp = exploded indexing term (Emtree)
- /su = indexing term with subheading for surgery
- \$ = truncation
- ti,ab = terms in either title or abstract fields
- adj3 = terms within three words of each other (any order)

## Cochrane Central Register of Controlled Trials (CENTRAL)

via Wiley <http://onlinelibrary.wiley.com/>

Date range: Issue 8 of 12, August 2021

Date searched: 24<sup>th</sup> August 2021

Records retrieved: 220

#1 [mh ^"Carcinoma, Hepatocellular"] 1837  
#2 [mh ^"Liver Neoplasms"] 2455  
#3 ((liver or hepatocellular or hepato next cellular or hepatic\*) near/3 (carcinoma\* or cancer\* or neoplas\* or tum\*r\* or malign\*)):ti,ab,kw 8902  
#4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato next carcinoma\*):ti,ab,kw 79  
#5 hepatoma\*:ti,ab,kw 133  
#6 HCC:ti,ab,kw 3522  
#7 {OR #1-#6} 9343  
#8 [mh ^"Neoplasm Staging"] 6590  
#9 (small\* or early or earlystage\*):ti,ab,kw 217037  
#10 (((BCLC or Barcelona next Clinic next Liver next Cancer) near/3 ("0" or "A" or A1 or A2 or A3 or A4)) or "BCLC0-A"):ti,ab,kw 134  
#11 (("1" or "2" or "3" or one or two or three) next (cm\* or centimet\*)):ti,ab,kw 10874  
#12 (1cm\* or 2cm\* or 3cm\*):ti,ab,kw 2039  
#13 ((carcinoma\* or tum\*r\* or lesion\* or nodule\*) near/6 (size\* or diameter\*)):ti,ab,kw 8660  
#14 (eHCC or sHCC):ti,ab,kw 16  
#15 {OR #1-#6} 235892  
#16 #14 or (#7 and #15) 2368  
#17 [mh ^"Laser Therapy"] 2059  
#18 (laser\* near/2 ablat\*):ti,ab,kw 946  
#19 LTA:ti,ab,kw 230  
#20 {OR #17-#19} 3002  
#21 [mh ^"Radiofrequency Ablation"] 68  
#22 [mh ^"Catheter Ablation"] 1506  
#23 [mh ^"Radiofrequency Therapy"] 100  
#24 ((radiofrequenc\* or radio next frequenc\*) near/3 ablat\*):ti,ab,kw 2750  
#25 RFA:ti,ab,kw 1133  
#26 RF next ablation:ti,ab,kw 318  
#27 RTA:ti,ab,kw 102  
#28 RFTA:ti,ab,kw 8  
#29 {OR #21-#28} 4151  
#30 [mh ^"Microwaves"] 220  
#31 microwave\* or micro next wave\*:ti,ab,kw 940  
#32 (MWA or MCT or PMCT or PMWA):ti,ab,kw 1301  
#33 {OR #30-#32} 2124  
#34 [mh ^"Carcinoma, Hepatocellular"/su] 299  
#35 [mh ^"Liver Neoplasms"/su] 570  
#36 [mh ^"Hepatectomy"] 640  
#37 [mh ^"Surgical Procedures, Operative"] 1056  
#38 ((surgical\* or surger\* or operat\* or resect\*) near/6 (carcinoma\* or tum\*r\* or lesion\* or nodule\* or neoplasm\* or liver\* or lobe\*)):ti,ab,kw 30644  
#39 (hepatectom\* or hemihepatectom\* or lobectom\* or microlobectom\* or segmentectom\* or trisegmentectom\*):ti,ab,kw 3209  
#40 ((carcinoma\* or tum\*r\* or lesion\* or nodule\* or neoplasm\* or liver\* or lobe\*) near/4 (excis\* or remov\* or dissect\*)):ti,ab,kw 2894  
#41 {OR #34-#40} 33856  
#42 #20 and (#29 or #33 or #41) 350  
#43 #29 and (#20 or #33 or #41) 748

#44 #33 and (#20 or #29 or #41) 250  
#45 #41 and (#20 or #29 or #33) 831  
#46 #16 and (#42 or #43 or #44 or #45)  
with Publication Year from 2000 to 2021, in Trials 220

**Key:**

mh = exploded indexing term (MeSH)  
mh ^ = unexploded indexing term (MeSH)  
/su = indexing term with subheading for surgery  
\* = truncation or additional characters within a word  
ti,ab,kw = terms in either title or abstract or keyword fields  
near/3 = terms within three words of each other (any order)  
next = terms are next to each other

**Science Citation Index**

via Web of Science, Clarivate Analytics <https://clarivate.com/>

Date range searched: 1900 – 24<sup>th</sup> August 2021

Date searched: 24<sup>th</sup> August 2021

Records retrieved: 2085

# 35 2,085  
#33 NOT #34  
Indexes=SCI-EXPANDED Timespan=2000-2021

# 34 3,014,594  
TI=(animal or animals or rat or rats or mouse or mice or rodent or rodents or porcine or murine or sheep or lamb or lambs or ewe or ewes or pig or pigs or piglet or piglets or sow or sows or minipig or minipigs or rabbit or rabbits or kitten or kittens or dog or dogs or puppy or puppies or monkey or monkeys or horse or horses or foal or foals or equine or calf or calves or cattle or heifer or heifers or hamster or hamsters or chicken or chickens or livestock or alpaca\* or llama\*)  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 33 2,221  
#32 AND #14  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 32 8,828  
#31 OR #30 OR #29 OR #28  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 31 5,221  
#27 AND #23  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 30 3,919  
#26 AND #19  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 29 7,070  
#25 AND #18  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 28 2,247  
#24 AND #15  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 27 344,482  
#19 OR #18 OR #15  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 26 349,075  
#23 OR #18 OR #15  
Indexes=SCI-EXPANDED Timespan=1900-2021

# 25 570,711  
 #23 OR #19 OR #15  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 24 564,150  
 #23 OR #19 OR #18  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 23 267,269  
 #22 OR #21 OR #20  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 22 54,632  
 TS=((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\* or neoplasm\* or liver\* or lobe\*  
 ) NEAR/4 (excis\* or remov\* or dissect\* ) )  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 21 47,079  
 TS=(hepatectom\* or hemi-  
 hepatectom\* or hemihepatectom\* or lobectom\* or microlobectom\* or micro-  
 lobectom\* or segmentectom\* or trisegmentectom\*)  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 20 208,297  
 TS=((surgical\* or surger\* or operat\* or resect\*) NEAR/6 (carcinoma\* or tumor\* or tumour\*  
 or lesion\* or nodule\* or neoplasm\* or liver\* or lobe\* ) )  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 19 261,374  
 TS=(microwave\* or (micro NEAR/1 wave\*) or MWA or MCT or PMCT or PMWA)  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 18 42,889  
 #17 OR #16  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 17 33,775  
 TS=((radiofrequenc\* or radio-frequenc\*) NEAR/3 ablat\*)  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 16 16,923  
 TS=(RFA or RTA or RFTA or (RF NEAR/1 ablation) )  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 15 44,627  
 TS=((laser\* NEAR/2 ablat\*) or LTA)  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 14 45,763  
 #13 OR #12  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 13 584  
 TS=(eHCC or sHCC)  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 12 45,284  
 #11 AND #5  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 11 5,537,680  
 #10 OR #9 OR #8 OR #7 OR #6  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 10 107,902  
 TS=((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) NEAR/6 (size\* or  
 diameter\* ) )  
 Indexes=SCI-EXPANDED Timespan=1900-2021

# 9 5,976  
 TS=(1cm\* or 2cm\* or 3cm\*)

- # 8 Indexes=SCI-EXPANDED Timespan=1900-2021  
660,688  
TS=("1" or "2" or "3" or one or two or three) NEAR/1 (cm or cms or centimet\*) )  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 7 842  
TS=((BCLC or "Barcelona Clinic Liver Cancer") NEAR/3 ("0" or "A" or "A1" or "A2" or "A3" or "A4") ) or BCLC0-A)  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 6 4,913,639  
TS=(small\* or early or earlystage\*)  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 5 234,493  
#4 OR #3 OR #2 OR #1  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 4 61,178  
TS=HCC  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 3 32,441  
TS=(hepatoma\*)  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 2 4,229  
TS=(hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*)  
Indexes=SCI-EXPANDED Timespan=1900-2021
- # 1 201,743  
TS=((liver or hepatocellular or hepato-cellular or hepatic\*) NEAR/3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*) )  
Indexes=SCI-EXPANDED Timespan=1900-2021

**Key:**

TS= terms in either title, abstract, author keywords, and keywords plus fields

TI= search in title field

NEAR/3 = terms within three words of each other (any order).

\* = truncation



## 1.4: Search strategies for identification of economic studies

The following databases were searched:

- MEDLINE ALL (Ovid)
- Embase (Ovid)
- EconLit (Ovid)
- NHS Economic Evaluations Database (CRD databases)

Search strategies for each database can be found below.

### Ovid MEDLINE(R) ALL

(includes Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE Daily and Ovid MEDLINE)

via Ovid <http://ovidsp.ovid.com/>

Date range searched: 1946 to 12<sup>th</sup> May 2021

Date searched: 13<sup>th</sup> May 2021

Records retrieved: 181

The MEDLINE strategy below (lines 17-24) includes a narrow search filter to limit retrieval to economic studies. The filter was designed by the Canadian Journal of Health Technologies (CADTH).

Strings attached: CADTH database search filters [Internet]. Ottawa: CADTH; 2016. [cited 2021 05 13]. Available from: <https://www.cadth.ca/resources/finding-evidence/strings-attached-cadth-database-search-filters#narrow>

- 1 Carcinoma, Hepatocellular/ (88831)
- 2 Liver Neoplasms/ (153869)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (153407)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (4221)
- 5 hepatoma\$.ti,ab. (28694)
- 6 HCC.ti,ab. (60357)
- 7 or/1-6 (237841)
- 8 Neoplasm Staging/ (179919)
- 9 (small\$ or early or earlystage?).ti,ab. (3206080)
- 10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (604)
- 11 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (78139)
- 12 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (4828)
- 13 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (126376)
- 14 (eHCC or sHCC).ti,ab. (257)
- 15 or/8-13 (3470534)
- 16 14 or (7 and 15) (51398)
- 17 \*economics/ (10739)
- 18 exp \*"costs and cost analysis"/ (74182)
- 19 (economic adj2 model\*).mp. (13712)
- 20 (cost minimi\* or cost-utilit\* or health utilit\* or economic evaluation\* or economic review\* or cost outcome or cost analys?s or economic analys?s or budget\* impact analys?s).ti,ab,kf,kw. (35068)
- 21 (cost-effective\* or pharmacoeconomic\* or pharmaco-economic\* or cost-benefit or costs).ti,kf,kw. (76616)
- 22 (life year or life years or qaly\* or cost-benefit analys?s or cost-effectiveness analys?s).ab,kf,kw. (32546)

- 23 (cost or economic\*).ti,kf,kw. and (costs or cost-effectiveness or markov).ab. (61298)
- 24 or/17-23 (187991)
- 25 16 and 24 (199)
- 26 exp animals/ not humans.sh. (4823832)
- 27 25 not 26 (199)
- 28 limit 27 to yr="2000-Current" (181)

**Key:**

- / or .sh. = indexing term (Medical Subject Heading: MeSH)
- exp = exploded indexing term (MeSH)
- \$ or \* = truncation
- ti,ab = terms in either title or abstract fields
- kw,kf = terms in keyword or keyfield field
- adj3 = terms within three words of each other (any order).
- mp = multipurpose field
- ? = replaces or adds up to 1 additional character

**Embase**

via Ovid <http://ovidsp.ovid.com/>

Date range searched: 1974 to 12<sup>th</sup> May 2021

Date searched: 13<sup>th</sup> May 2021

Records retrieved: 398

The Embase strategy below (lines 19-29) includes a narrow search filter to limit retrieval to economic studies. The filter was designed by the Canadian Journal of Health Technologies (CADTH) and was adapted for use on Embase by an Information Specialist (HF).

Strings attached: CADTH database search filters [Internet]. Ottawa: CADTH; 2016. [cited 2021 05 13]. Available from: <https://www.cadth.ca/resources/finding-evidence/strings-attached-cadths-database-search-filters#narrow>

- 1 liver cell carcinoma/ (169036)
- 2 liver cancer/ (35065)
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\$) adj3 (carcinoma\$ or cancer\$ or neoplas\$ or tumour\$ or tumor\$ or malign\$)).ti,ab. (221820)
- 4 (hepatocellularcarcinoma\$ or hepatocarcinoma\$ or hepato-carcinoma\$).ti,ab. (5968)
- 5 hepatoma\$.ti,ab. (33053)
- 6 HCC.ti,ab. (98970)
- 7 or/1-6 (297502)
- 8 early cancer/ (19534)
- 9 cancer size/ (70648)
- 10 cancer staging/ (366371)
- 11 (small\$ or early or earlystage?).ti,ab. (4193311)
- 12 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab. (1776)
- 13 (("1" or "2" or "3" or one or two or three) adj (cm\$ or centimet\$)).ti,ab. (121277)
- 14 (1cm\$ or 2cm\$ or 3cm\$).ti,ab. (16013)
- 15 ((carcinoma\$ or tumor\$ or tumour\$ or lesion\$ or nodule\$) adj6 (size\$ or diameter\$)).ti,ab. (204435)
- 16 (eHCC or sHCC).ti,ab. (401)
- 17 or/8-15 (4680762)
- 18 16 or (7 and 17) (79203)
- 19 \*economics/ (27019)
- 20 \*"cost benefit analysis"/ (12098)
- 21 \*"cost effectiveness analysis"/ (32519)

- 22 \*"cost utility analysis"/ (2582)
- 23 \*"cost minimization analysis"/ (774)
- 24 (economic adj2 model\*).mp. (8254)
- 25 (cost minimi\* or cost-utilit\* or health utilit\* or economic evaluation\* or economic review\* or cost outcome or cost analys?s or economic analys?s or budget\* impact analys?s).ti,ab,kw. (55184)
- 26 (cost-effective\* or pharmacoeconomic\* or pharmaco-economic\* or cost-benefit or costs).ti,kw. (115188)
- 27 (life year or life years or qaly\* or cost-benefit analys?s or cost-effectiveness analys?s).ab,kw. (51351)
- 28 (cost or economic\*).ti,kw. and (costs or cost-effectiveness or markov).ab. (98298)
- 29 or/19-28 (230319)
- 30 18 and 29 (419)
- 31 (rat or rats or mouse or mice or swine or porcine or murine or sheep or lambs or pigs or piglets or rabbit or rabbits or cat or cats or dog or dogs or cattle or bovine or monkey or monkeys or trout or marmoset\$).ti,ot. and animal experiment/ (1124157)
- 32 Animal experiment/ not (human experiment/ or human/) (2358550)
- 33 31 or 32 (2412888)
- 34 30 not 33 (414)
- 35 limit 34 to yr="2000-Current" (398)

**Key:**

- / or .sh. = indexing term (Emtree Subject Heading)
- exp = exploded indexing term (Emtree)
- \* before an Emtree Subject Heading = focused term
- \$ or \* = truncation
- ti,ab = terms in either title or abstract fields
- kw = keyword field
- adj3 = terms within three words of each other (any order).
- mp = multipurpose field
- ? = replaces or adds up to 1 additional character

**EconLit**

via Ovid <http://ovidsp.ovid.com/>

Date range searched: 1886 to 29<sup>th</sup> April 2021

Date searched: 13<sup>th</sup> May 2021

Records retrieved: 12

- 1 ((liver or hepatocellular or hepato-cellular or hepatic\*) adj3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)),ti,ab,kw,hw. (27)
- 2 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*).ti,ab,kw,hw. (0)
- 3 hepatoma\*.ti,ab,kw,hw. (0)
- 4 HCC.ti,ab,kw,hw. (31)
- 5 or/1-4 (52)
- 6 (small\* or early or earlystage?).ti,ab,kw,hw. (121613)
- 7 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A).ti,ab,kw,hw. (0)
- 8 ("1" or "2" or "3" or one or two or three) adj (cm\* or centimet\*).ti,ab,kw,hw. (43)
- 9 (1cm\* or 2cm\* or 3cm\*).ti,ab,kw,hw. (14)
- 10 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) adj6 (size\* or diameter\*).ti,ab,kw,hw. (4)
- 11 (eHCC or sHCC).ti,ab,kw,hw. (1)
- 12 or/6-10 (121658)
- 13 11 or (5 and 12) (12)
- 14 limit 13 to yr="2000-Current" (12)

**Key:**

\* = truncation

ti,ab,kw,hw = terms in either title, abstract, keyword or headword fields

adj3 = terms within three words of each other (any order).

**NHS Economic Evaluation Database (NHS EED)**via <https://www.crd.york.ac.uk/CRDWeb/>

Date Run: 13/05/2021

Date range searched: Inception to 31<sup>st</sup> March 2015.Date searched: 13<sup>th</sup> May 2021

Records retrieved: 77

- 1 MeSH DESCRIPTOR Carcinoma, Hepatocellular IN NHSEED 69
- 2 MeSH DESCRIPTOR Liver Neoplasms IN NHSEED 108
- 3 ((liver or hepatocellular or hepato-cellular or hepatic\*) adj3 (carcinoma\* or cancer\* or neoplas\* or tumour\* or tumor\* or malign\*)) IN NHSEED 222
- 4 (hepatocellularcarcinoma\* or hepatocarcinoma\* or hepato-carcinoma\*) IN NHSEED 5
- 5 (hepatoma\*) IN NHSEED 4
- 6 (HCC) IN NHSEED 35
- 7 #1 OR #2 OR #3 OR #4 OR #5 OR #6 230
- 8 MeSH DESCRIPTOR Neoplasm Staging IN NHSEED 266
- 9 (small\* or early or earlystage\*) IN NHSEED 3701
- 10 (((BCLC or Barcelona-Clinic Liver Cancer) adj3 ("0" or A or A1 or A2 or A3 or A4)) or BCLC0-A) IN NHSEED 0
- 11 (("1" or "2" or "3" or one or two or three) adj (cm\* or centimet\*)) IN NHSEED 199
- 12 (1cm\* or 2cm\* or 3cm\*) IN NHSEED 35
- 13 ((carcinoma\* or tumor\* or tumour\* or lesion\* or nodule\*) adj6 (size\* or diameter\*)) IN NHSEED 76
- 14 (eHCC or sHCC) IN NHSEED 0
- 15 #8 OR #9 OR #10 OR #11 OR #12 OR #13 3956
- 16 #7 AND #15 92
- 17 #14 OR #16 92
- 18 (#14 OR #16) IN NHSEED FROM 2000 TO 2015 77

**Key:**

MeSH DESCRIPTOR = indexing term: Medical Subject Heading (MeSH)

\* = truncation

adj6 = terms within six words of each other (only in the order specified).