

Supplementary Methods

Interventional Radiology Procedures:

The following SQL Search text was used to identify interventional Radiology Procedures from the raw table [Radiology_radx_examinations_70_03].

Transarterial Embolization (Bland, Chemo- or Radio-Embolization)

“WHERE ([RadNucMedProc] like '%embo%' OR [RadNucMedProc] like '%tace%') AND [RadNucMedProc] not like '%fibroid%' AND [RadNucMedProc] not like '%head%' AND [RadNucMedProc] not like '% CNS IC%' AND [RadNucMedProc] not like '%intracranial%' AND [RadNucMedProc] not like '%uter%' AND [RadNucMedProc] not like '%carot%' AND [RadNucMedProc] not like '%pulm%' AND [RadNucMedProc] not like '%TIP%' AND [RadNucMedProc] not like '%ECTOMY%' AND [RadNucMedProc] not like '%THRMB%' AND [RadNucMedProc] not like '%HEMOR%' AND [RadNucMedProc] not like '%VENOUS%' AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

90Y-radioembolization (cross-referenced with transarterial embolization)

“WHERE ([RadNucMedProc] like '%Y-90%' OR [RadNucMedProc] like '%Y90%') AND [RadNucMedProc] not like '%renal%' AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

Radiofrequency Ablation

“WHERE ([RadNucMedProc] like '%ablation%' OR [RadNucMedProc] like '%abalation%') AND [RadNucMedProc] not like '%fibroid%' AND [RadNucMedProc] not like '%head%' AND [RadNucMedProc] not like '%lung%' AND [RadNucMedProc] not like '%venous%' AND [RadNucMedProc] not like '%pulmon%' AND [RadNucMedProc] not like '%TIP%' AND [RadNucMedProc] not like '%fibroid%' AND [RadNucMedProc] not like '%head%' AND [RadNucMedProc] not like '%pulmon%' AND [RadNucMedProc] not like '%thyr%' AND [RadNucMedProc] not like '%ECTOMY%' AND [RadNucMedProc] not like '%SAPHEN%' AND [RadNucMedProc] not like '%FOR RENAL%' AND [RadNucMedProc] not like '%FIBRO%' AND [RadNucMedProc] not like '%THRMB%' AND NOT ([RadNucMedProc] like '%RENAL%' AND [RadNucMedProc] not like '%LIVER%') AND NOT ([RadNucMedProc] like '%KIDNEY%' AND [RadNucMedProc] not like '%LIVER%') AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

Percutaneous Ethanol Injection

“WHERE ([RadNucMedProc] like '%ethan%' OR [RadNucMedProc] like '%alco%') AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

Cryoablation

“WHERE ([RadNucMedProc] like '%cryo%') AND [RadNucMedProc] not like '%kidney%' AND [RadNucMedProc] not like '%renal%' AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

Microwave Ablation

“WHERE ([RadNucMedProc] like '%microwave%') AND [RadNucMedProc] not like '%kidney%' AND [RadNucMedProc] not like '%renal%' AND [ExamStatus] not like 'CANC%' AND ([ExamDate] is not null OR [Visit] is not null)”

Fee-basis Procedures

SQL Case	Therapeutic Procedure
[CPTCode] like '47135' OR [CPTCode] like '47136' OR [CPTCode] like '4714%'	Liver Transplantation (cadaveric)
[CPTCode] like '47133' OR [CPTCode] like '47134'	Liver Transplantation (live-donor)
[CPTCode] like '47100'	Resection (wedge)
[CPTCode] like '4712%' OR [CPTCode] like '4713%'	Resection (partial hepatectomy or lobectomy)
[CPTCode] like '47370' OR [CPTCode] like '47379'	Laparoscopic Radiofrequency Ablation
[CPTCode] like '47371'	Laparoscopic Cryoablation
[CPTCode] like 'S2210'	Cryoablation
[CPTCode] like '47380'	Open Radiofrequency Ablation
[CPTCode] like '47381'	Open Cryoablation
[CPTCode] like '47382' OR [CPTCode] like '77013'	Percutaneous Radiofrequency Ablation
[CPTCode] like '97020' OR [CPTCode] like '97024'	Percutaneous Microwave Ablation
[CPTCode] like 'C2618%'	Percutaneous Cryoablation
[CPTCode] like 'A9543' OR [CPTCode] like 'C2616'	⁹⁰ Y-radioembolization
[CPTCode] IN ('37204', '37241', '37242', '37243', '37244', '75894', '75898', '75774')	Transarterial Embolization
[CPTCode] like '96420' OR [CPTCode] like 'J9000'	Chemotherapy (if combined with Transarterial Embolization → Chemoembolization)
[CPTCode] like '77014%' OR [CPTCode] like '7742%' OR [CPTCode] like '7729%' OR [CPTCode] like '7777%'	Radiotherapy (external)
[CPTCode] like '77301%'	Intensity-modulated radiation therapy
[CPTCode] like '77373%' OR [CPTCode] like '77435%' OR [CPTCode] like 'G0173%' OR [CPTCode] like 'G0251%' OR [CPTCode] like 'G0339%'	Stereotactic Beam Radiotherapy
[CPTCode] like 'S9126' OR [CPTCode] like 'Q500%' OR [CPTCode] like 'T204%'	Hospice