**Supplementary data 1** shows the strategy used for search of PubMed, Embase and Cochrane Library

**PUBMED database**

1. **Query –radiation OR radiotherapy OR treatment**

**Result**:

11,867,474

"radiate"[All Fields] OR "radiated"[All Fields] OR "radiates"[All Fields] OR "radiating"[All Fields] OR "radiation"[MeSH Terms] OR "radiation"[All Fields] OR "electromagnetic radiation"[MeSH Terms] OR ("electromagnetic"[All Fields] AND "radiation"[All Fields]) OR "electromagnetic radiation"[All Fields] OR "radiations"[All Fields] OR "radiation s"[All Fields] OR "radiator"[All Fields] OR "radiators"[All Fields] OR ("radiotherapy"[MeSH Terms] OR "radiotherapy"[All Fields] OR "radiotherapies"[All Fields] OR "radiotherapy"[MeSH Subheading] OR "radiotherapy s"[All Fields]) OR ("therapeutics"[MeSH Terms] OR "therapeutics"[All Fields] OR "treatments"[All Fields] OR "therapy"[MeSH Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "treatment s"[All Fields])

Translations

radiation: "radiate"[All Fields] OR "radiated"[All Fields] OR "radiates"[All Fields] OR "radiating"[All Fields] OR "radiation"[MeSH Terms] OR "radiation"[All Fields] OR "electromagnetic radiation"[MeSH Terms] OR ("electromagnetic"[All Fields] AND "radiation"[All Fields]) OR "electromagnetic radiation"[All Fields] OR "radiations"[All Fields] OR "radiation's"[All Fields] OR "radiator"[All Fields] OR "radiators"[All Fields]

radiotherapy: "radiotherapy"[MeSH Terms] OR "radiotherapy"[All Fields] OR "radiotherapies"[All Fields] OR "radiotherapy"[Subheading] OR "radiotherapy's"[All Fields]

treatment: "therapeutics"[MeSH Terms] OR "therapeutics"[All Fields] OR "treatments"[All Fields] OR "therapy"[Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "treatment's"[All Fields]

2. **Query-tumor OR tumour OR cancer OR neoplasms**

**Result:**

4,702,635

"cysts"[MeSH Terms] OR "cysts"[All Fields] OR "cyst"[All Fields] OR "neurofibroma"[MeSH Terms] OR "neurofibroma"[All Fields] OR "neurofibromas"[All Fields] OR "tumor s"[All Fields] OR "tumoral"[All Fields] OR "tumorous"[All Fields] OR "tumour"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "tumor"[All Fields] OR "tumour s"[All Fields] OR "tumoural"[All Fields] OR "tumourous"[All Fields] OR "tumours"[All Fields] OR "tumors"[All Fields] OR "cysts"[MeSH Terms] OR "cysts"[All Fields] OR "cyst"[All Fields] OR "neurofibroma"[MeSH Terms] OR "neurofibroma"[All Fields] OR "neurofibromas"[All Fields] OR "tumor s"[All Fields] OR "tumoral"[All Fields] OR "tumorous"[All Fields] OR "tumour"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "tumor"[All Fields] OR "tumour s"[All Fields] OR "tumoural"[All Fields] OR "tumourous"[All Fields] OR "tumours"[All Fields] OR "tumors"[All Fields] OR "cancer s"[All Fields] OR "cancerated"[All Fields] OR "canceration"[All Fields] OR "cancerization"[All Fields] OR "cancerized"[All Fields] OR "cancerous"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "cancer"[All Fields] OR "cancers"[All Fields] OR "neoplasm s"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "neoplasm"[All Fields]

Translations

tumor: "cysts"[MeSH Terms] OR "cysts"[All Fields] OR "cyst"[All Fields] OR "neurofibroma"[MeSH Terms] OR "neurofibroma"[All Fields] OR "neurofibromas"[All Fields] OR "tumor's"[All Fields] OR "tumoral"[All Fields] OR "tumorous"[All Fields] OR "tumour"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "tumor"[All Fields] OR "tumour's"[All Fields] OR "tumoural"[All Fields] OR "tumourous"[All Fields] OR "tumours"[All Fields] OR "tumors"[All Fields]

tumour: "cysts"[MeSH Terms] OR "cysts"[All Fields] OR "cyst"[All Fields] OR "neurofibroma"[MeSH Terms] OR "neurofibroma"[All Fields] OR "neurofibromas"[All Fields] OR "tumor's"[All Fields] OR "tumoral"[All Fields] OR "tumorous"[All Fields] OR "tumour"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "tumor"[All Fields] OR "tumour's"[All Fields] OR "tumoural"[All Fields] OR "tumourous"[All Fields] OR "tumours"[All Fields] OR "tumors"[All Fields]

cancer: "cancer's"[All Fields] OR "cancerated"[All Fields] OR "canceration"[All Fields] OR "cancerization"[All Fields] OR "cancerized"[All Fields] OR "cancerous"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "cancer"[All Fields] OR "cancers"[All Fields]

neoplasms: "neoplasm's"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "neoplasm"[All Fields]

3. **Query –lymphocytopenia OR lymphopenia**

Result:

11,841

"lymphopenia"[MeSH Terms] OR "lymphopenia"[All Fields] OR "lymphocytopenia"[All Fields] OR "lymphocytopenias"[All Fields] OR "lymphopenia"[MeSH Terms] OR "lymphopenia"[All Fields] OR "lymphopenias"[All Fields]

**Translations**

**lymphocytopenia:** "lymphopenia"[MeSH Terms] OR "lymphopenia"[All Fields] OR "lymphocytopenia"[All Fields] OR "lymphocytopenias"[All Fields]

**lymphopenia:** "lymphopenia"[MeSH Terms] OR "lymphopenia"[All Fields] OR "lymphopenias"[All Fields]

4. **Query – esophagus OR liver OR hepatocellular OR cholangiocarcinoma OR gall bladder OR stomach OR gastric OR pancreas or rectum OR anal canal**

**Results** 1,861,079

"oesophagus"[All Fields] OR "esophagus"[MeSH Terms] OR "esophagus"[All Fields] OR ("liver"[MeSH Terms] OR "liver"[All Fields] OR "livers"[All Fields] OR "liver s"[All Fields]) OR "hepatocellular"[All Fields] OR ("cholangiocarcinoma"[MeSH Terms] OR "cholangiocarcinoma"[All Fields] OR "cholangiocarcinomas"[All Fields]) OR ("gallbladder"[MeSH Terms] OR "gallbladder"[All Fields] OR ("gall"[All Fields] AND "bladder"[All Fields]) OR "gall bladder"[All Fields]) OR ("stomach"[MeSH Terms] OR "stomach"[All Fields] OR "stomachs"[All Fields] OR "stomach s"[All Fields] OR "stomachal"[All Fields] OR "stomaches"[All Fields]) OR ("gastrics"[All Fields] OR "stomach"[MeSH Terms] OR "stomach"[All Fields] OR "gastric"[All Fields]) OR ("pancrea"[All Fields] OR "pancreas"[MeSH Terms] OR "pancreas"[All Fields]) OR ("rectum"[MeSH Terms] OR "rectum"[All Fields] OR "rectums"[All Fields]) OR ("anal canal"[MeSH Terms] OR ("anal"[All Fields] AND "canal"[All Fields]) OR "anal canal"[All Fields])

**Translations**

**esophagus:** "oesophagus"[All Fields] OR "esophagus"[MeSH Terms] OR "esophagus"[All Fields]

**liver:** "liver"[MeSH Terms] OR "liver"[All Fields] OR "livers"[All Fields] OR "liver's"[All Fields]

**cholangiocarcinoma:** "cholangiocarcinoma"[MeSH Terms] OR "cholangiocarcinoma"[All Fields] OR "cholangiocarcinomas"[All Fields]

**gall bladder:** "gallbladder"[MeSH Terms] OR "gallbladder"[All Fields] OR ("gall"[All Fields] AND "bladder"[All Fields]) OR "gall bladder"[All Fields]

**stomach:** "stomach"[MeSH Terms] OR "stomach"[All Fields] OR "stomachs"[All Fields] OR "stomach's"[All Fields] OR "stomachal"[All Fields] OR "stomaches"[All Fields]

**gastric:** "gastrics"[All Fields] OR "stomach"[MeSH Terms] OR "stomach"[All Fields] OR "gastric"[All Fields]

**pancreas:** "pancrea"[All Fields] OR "pancreas"[MeSH Terms] OR "pancreas"[All Fields]

**rectum:** "rectum"[MeSH Terms] OR "rectum"[All Fields] OR "rectums"[All Fields]

**anal canal:** "anal canal"[MeSH Terms] OR ("anal"[All Fields] AND "canal"[All Fields]) OR "anal canal"[All Fields]

#1 AND #2 AND #3 AND #4=254 articles

Results:254

**EMBASE database**

|  |  |  |
| --- | --- | --- |
| # | Searches | Results |
| 1 | (Radiation or radiotherapy or treatment).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] | 8129974 |
| 2 | (cancer or tumour or tumor or neoplasm).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] | 5301497 |
| 3 | (Lymphopenia or lymphocytopenia).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] | 27039 |
| 4 | (esophagus OR liver OR hepatocellular OR cholangiocarcinoma OR gall bladder OR stomach OR gastric OR pancreas or rectum OR anal canal).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word] | 2943722 |
| 5 | 1 and 2 and 3 and 4 | 2518 |

**Cochrane central**

Date Run: 07/09/2020 14:04:54

ID Search Hits

#1 radiation OR radiotherapy OR treatment 771183

#2 tumor OR tumour OR cancer OR neoplasms 207089

#3 lymphocytopenia OR lymphopenia 1310

#4 esophagus OR liver OR hepatocellular OR cholangiocarcinoma OR gall bladder OR stomach OR gastric OR pancreas or rectum OR anal canal 109009

#5 #1 AND #2 AND #3 AND #4 197