

Supplementary Table 1. Search strategy for the initial search, and the three additional searches

Aspect	Keywords
#1	“whole-brain radiation therapy” OR “cranial irradiation” OR “cranial radiotherapy” OR “whole-brain radiotherapy” OR radiotherapy OR “whole brain irradiation” OR “whole brain radiotherapy” OR radiation OR “radiation therapy” OR radiotherapeutics OR “irradiation therapy”
#2	“chronic neurotoxicity” OR neurotoxicity OR “cognitive function” OR “cognitive state” OR toxicity OR “CNS toxicity” OR cognition OR “neurocognitive decline” OR “neurocognitive deterioration” OR comprehension OR cognizance OR understanding OR perception OR intelligence
#3	neuroprotection OR neuroprotective OR “neuroprotective agent” OR “neuroprotective agents” OR metformin OR memantine OR donepezil OR methylphenidate OR neurodefensive OR neuropreventive OR preventative
#4	“brain metastases” OR “small-cell lung cancer” OR “non small-cell lung cancer” OR “tumour progression” OR “tumor progression” OR “brain tumor” OR “brain tumour”

Search strategy:

(((((((“whole-brain radiation therapy” OR “cranial irradiation” OR “cranial radiotherapy” OR “whole-brain radiotherapy” OR radiotherapy OR “whole brain irradiation” OR “whole brain radiotherapy” OR radiation OR “radiation therapy” OR radiotherapeutics OR “irradiation therapy”))) AND (“chronic neurotoxicity” OR neurotoxicity OR “cognitive function” OR “cognitive state” OR toxicity OR “CNS toxicity” OR cognition OR “neurocognitive decline” OR “neurocognitive deterioration” OR comprehension OR cognizance OR understanding OR perception OR intelligence)) AND (neuroprotection OR neuroprotective OR “neuroprotective agent” OR “neuroprotective agents” OR metformin OR memantine OR donepezil OR

methylphenidate OR neurodefensive OR neuropreventive OR preventative)) AND (“brain metastases” OR “small-cell lung cancer” OR “non small-cell lung cancer” OR “tumour progression” OR “tumor progression” OR “brain tumor” OR “brain tumour”)) AND Clinical Trial[ptyp] AND Humans[Mesh])