This MICCAI paper is the Open Access version, provided by the MICCAI Society. It is identical to the accepted version, except for the format and this watermark; the final published version is available on SpringerLink.

Appendix A: Clinical-group crosswalk

Table 2 lists the twelve clinically actionable super-classes into which every source label space – the ground-truth diagnosis abbreviation, the crossNN pan-cancer and brain-tumour classifiers' top-1 calls, and the SRH-CNN weighted diagnosis – is harmonised. Tables 3–6 give the full, exhaustive crosswalk from each source label space to these twelve classes, over every distinct label value observed as a top-1 call across the 292-specimen cohort. Table **??** then reports, for each of the twelve classes, which side of each of the four binary clinical groupings it falls on.

Table 2. The twelve clinical super-classes.

#	Clinical group
1	Diffuse glioma
2	Pilocytic/glioneuronal
3	Ependymoma
4	Embryonal
5	Meningioma
6	Metastasis
7	CNS lymphoma
8	Pituitary
9	Schwannoma
10	Haemangioblastoma
11	Normal/reactive brain
12	Other

Table 3. Ground-truth diagnosis abbreviation → clinical group (15 values, neuropathologist-assigned).

Ground-truth label	Clinical group
A IDH	Diffuse glioma
GBM	Diffuse glioma
O IDH	Diffuse glioma
ANA PA	Pilocytic/glioneuronal
LGG, DNT	Pilocytic/glioneuronal
LGG, PA	Pilocytic/glioneuronal
PXA	Pilocytic/glioneuronal
EPN	Ependymoma
ETMR	Embryonal
LYMPHO	CNS lymphoma
MT	Metastasis
PITAD	Pituitary
HMB	Haemangioblastoma
CONTR	Normal/reactive brain
MES	Other

Table 4. SRH-CNN weighted diagnosis → clinical group (12 observed labels in this cohort; Ependymoma is a valid 13th SRH-CNN class that was never a top-1 call here and is listed for completeness). Haemangioblastoma and Other have no matching SRH-CNN class and are structurally unreachable by this classifier; every other of the twelve clinical groups is a class SRH-CNN can output.

SRH-CNN label	Clinical group
Diffuse LGG	Diffuse glioma
Malignant glioma	Diffuse glioma
Pilocytic astrocytoma	Pilocytic/glioneuronal
Ependymoma[a]	Ependymoma
Medulloblastoma	Embryonal
Meningioma	Meningioma
Metastasis	Metastasis
Lymphoma	CNS lymphoma
Pituitary adenoma	Pituitary
Schwannoma	Schwannoma
Gliosis	Normal/reactive brain
Grey matter	Normal/reactive brain
White matter	Normal/reactive brain

[a]Never observed as a top-1 call in this cohort. Structurally absent (no matching SRH-CNN class): Haemangioblastoma, Other.

Table 5. crossNN brain-tumour classifier top-1 call → clinical group (36 observed labels).

Brain-classifier label	Clinical group	Brain-classifier label	Clinical group
A IDH	Diffuse glioma	MB, SHH INF	Embryonal
A IDH, HG	Diffuse glioma	MNG	Meningioma
GBM, G34	Diffuse glioma	SCHW	Schwannoma
GBM, MES	Diffuse glioma	HMB	Haemangioblastoma
GBM, MID	Diffuse glioma	LYMPHO	CNS lymphoma
GBM, RTK I	Diffuse glioma	PLASMA[a]	CNS lymphoma
GBM, RTK II	Diffuse glioma	PITAD, FSH LH	Pituitary
O IDH	Diffuse glioma	PITAD, STH SPA	Pituitary
LGG, DNT	Pilocytic/glioneuronal	MELAN	Metastasis
LGG, PA PF	Pilocytic/glioneuronal	CONTR, CEBM	Normal/reactive brain
LGG, PA/GG ST	Pilocytic/glioneuronal	CONTR, HEMI	Normal/reactive brain
PXA	Pilocytic/glioneuronal	CONTR, INFLAM	Normal/reactive brain
EPN, PF B	Ependymoma	CONTR, REACT	Normal/reactive brain
SUBEPN, PF	Ependymoma	EFT, CIC[b]	Other
ATRT, MYC	Embryonal	HGNET, MN1[b]	Other
ATRT, SHH	Embryonal	PLEX, PED B[b]	Other
ETMR	Embryonal	SFT HMPC[b]	Other
MB, G3	Embryonal	MB, SHH CHL AD	Embryonal

[a]Plasmacytoma, lumped with DLBCL under CNS lymphoma. [b]Unmapped to any of the eleven named entities; bucketed to Other (4 of the paper's 7 unmapped crossNN entities).

Table 6. crossNN pan-cancer classifier top-1 call → clinical group (47 observed labels). TCGA-style peripheral-tumour codes (rows 25–39) map to Metastasis, reflecting the brain-metastasis-of-known-primary use of the pan-cancer classifier.

Pan-cancer label	Clinical group	Pan-cancer label	Clinical group
A IDH	Diffuse glioma	LUAD	Metastasis
A IDH, HG	Diffuse glioma	LUSC	Metastasis
GBM, MES	Diffuse glioma	MELAN	Metastasis
GBM, MID	Diffuse glioma	MESO	Metastasis
GBM, RTK I	Diffuse glioma	SCLC	Metastasis
GBM, RTK II	Diffuse glioma	STAD	Metastasis
O IDH	Diffuse glioma	THYM	Metastasis
LGG, DNT	Pilocytic/glioneuronal	UCEC	Metastasis
LGG, PA PF	Pilocytic/glioneuronal	UCS	Metastasis
LGG, PA/GG ST	Pilocytic/glioneuronal	USARC	Metastasis
LGG, RGNT	Pilocytic/glioneuronal	CONTR, CEBM	Normal/reactive brain
PXA	Pilocytic/glioneuronal	CONTR, HEMI	Normal/reactive brain
EPN, PF B	Ependymoma	CONTR, REACT	Normal/reactive brain
EPN, SPINE	Ependymoma	CONTR, WM	Normal/reactive brain
SUBEPN, PF	Ependymoma	CTRL (BLOOD)[a]	Normal/reactive brain
SUBEPN, ST	Ependymoma	CSA (A)[b]	Other
ETMR	Embryonal	MELCYT[b]	Other
MB, SHH CHL AD	Embryonal	iGCT-G[b]	Other
MNG	Meningioma	BLCA	Metastasis
SCHW	Schwannoma	BRCA	Metastasis
HMB	Haemangioblastoma	CESC	Metastasis
DLBCL	CNS lymphoma	CHOL	Metastasis
PITAD, FSH LH	Pituitary	CO-READ	Metastasis
PITAD, STH SPA	Pituitary		

[a]Low-purity/abstain call. [b]Unmapped to any of the eleven named entities; bucketed to Other (3 of the paper's 7 unmapped crossNN entities).