

Supplementary Material: Automated Spinal MRI Labelling from Reports Using a Large Language Model

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Condition	Definition
Cancer	Spinal cancer includes malignant lesions that originate from the spine or spinal cord and metastatic or secondary tumours that have spread from another site to the spine.
Stenosis	Stenosis is any narrowing or compression of the spinal canal or nerves, including disc protrusions, impingement of nerve roots, or compromise of recesses.

Table 1. Definitions used to prompt the label extraction pipeline.

Clinical History: 2 yrs LBP with a history of SLE and widespread arthralgia. Need to rule out AxSpA. Whole spine spondyloarthropathy view please Sagittal T1 and STIR sequences were performed through the whole spine, as per the spondyloarthropathy protocol.
Findings: Bone marrow signal in the dorsal spine is preserved with no abnormal corner endplate changes, costovertebritis or enthesitis seen to suggest inflammatory spondyloarthropathy. Early disc dehydration is present in the cervical spine but without significant disc bulge. No significant disc disease is present in the lower lumbar spine. The visualised cord returns normal signal normal appearances at the craniocervical junction. The conus terminates at the level of L1. Vertebral alignment is maintained.
Conclusion: No features to suggest inflammatory spondyloarthropathy.

Fig. 1. An example report from **CancerData** with section headers shown in bold.

Data	Split	Patients	Studies	Positive Cases
CancerData	Calibration (Labels)	140	140	67 (47.9%)
	Test (Labels)	145	145	67 (46.2%)
StenosisData	Calibration (Labels)	68	68	41 (60.3%)
	Test (Labels)	68	68	45 (66.2%)
GeneralReports	Fine-tuning	44,952	56,924	-

Table 2. Labelling datasets used to prompt engineer (top two rows) and fine-tune the model (bottom row) for the labelling pipeline.



Fig. 2. Example report and scan from **StenosisData**. Summary and scores were generated using our pipeline.



Fig. 3. Example report and scans from **CancerData**. Summary and scores were generated using our pipeline.