

**Titre:** Spinal cord demyelination predicts neurological deterioration in patients with mild degenerative cervical myelopathy. Supplément

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Appendix A. Derived qMRI metrics

| Image Type | Atlas Number | Tract Name       | Above/Below MCCL |
|------------|--------------|------------------|------------------|
| DTI AD     | 50           | Full Spinal Cord | Above            |
| DTI AD     | 50           | Full Spinal Cord | Below            |
| DTI AD     | 51           | White Matter     | Above            |
| DTI AD     | 51           | White Matter     | Below            |
| DTI AD     | 52           | Gray Matter      | Above            |
| DTI AD     | 52           | Gray Matter      | Below            |
| DTI AD     | 53           | Dorsal Funiculi  | Above            |
| DTI AD     | 53           | Dorsal Funiculi  | Below            |
| DTI AD     | 54           | Lateral Funiculi | Above            |
| DTI AD     | 54           | Lateral Funiculi | Below            |
| DTI AD     | 55           | Ventral Funiculi | Above            |
| DTI AD     | 55           | Ventral Funiculi | Below            |
| DTI FA     | 50           | Full Spinal Cord | Above            |
| DTI FA     | 50           | Full Spinal Cord | Below            |
| DTI FA     | 51           | White Matter     | Above            |
| DTI FA     | 51           | White Matter     | Below            |
| DTI FA     | 52           | Gray Matter      | Above            |
| DTI FA     | 52           | Gray Matter      | Below            |
| DTI FA     | 53           | Dorsal Funiculi  | Above            |
| DTI FA     | 53           | Dorsal Funiculi  | Below            |
| DTI FA     | 54           | Lateral Funiculi | Above            |
| DTI FA     | 54           | Lateral Funiculi | Below            |
| DTI FA     | 55           | Ventral Funiculi | Above            |
| DTI FA     | 55           | Ventral Funiculi | Below            |
| DTI MD     | 50           | Full Spinal Cord | Above            |
| DTI MD     | 50           | Full Spinal Cord | Below            |

|        |    |                  |       |
|--------|----|------------------|-------|
| DTI MD | 51 | White Matter     | Above |
| DTI MD | 51 | White Matter     | Below |
| DTI MD | 52 | Gray Matter      | Above |
| DTI MD | 52 | Gray Matter      | Below |
| DTI MD | 53 | Dorsal Funiculi  | Above |
| DTI MD | 53 | Dorsal Funiculi  | Below |
| DTI MD | 54 | Lateral Funiculi | Above |
| DTI MD | 54 | Lateral Funiculi | Below |
| DTI MD | 55 | Ventral Funiculi | Above |
| DTI MD | 55 | Ventral Funiculi | Below |
| DTI RD | 50 | Full Spinal Cord | Above |
| DTI RD | 50 | Full Spinal Cord | Below |
| DTI RD | 51 | White Matter     | Above |
| DTI RD | 51 | White Matter     | Below |
| DTI RD | 52 | Gray Matter      | Above |
| DTI RD | 52 | Gray Matter      | Below |
| DTI RD | 53 | Dorsal Funiculi  | Above |
| DTI RD | 53 | Dorsal Funiculi  | Below |
| DTI RD | 54 | Lateral Funiculi | Above |
| DTI RD | 54 | Lateral Funiculi | Below |
| DTI RD | 55 | Ventral Funiculi | Above |
| DTI RD | 55 | Ventral Funiculi | Below |
| MTR    | 50 | Full Spinal Cord | Above |
| MTR    | 50 | Full Spinal Cord | Below |
| MTR    | 51 | White Matter     | Above |
| MTR    | 51 | White Matter     | Below |
| MTR    | 52 | Gray Matter      | Above |
| MTR    | 52 | Gray Matter      | Below |
| MTR    | 53 | Dorsal Funiculi  | Above |
| MTR    | 53 | Dorsal Funiculi  | Below |
| MTR    | 54 | Lateral Funiculi | Above |

|     |    |                  |       |
|-----|----|------------------|-------|
| MTR | 54 | Lateral Funiculi | Below |
| MTR | 55 | Ventral Funiculi | Above |
| MTR | 55 | Ventral Funiculi | Below |

Appendix B. Tested hyperparameters within grid search

| Model Type                | Hyperparameter    | Tested Value                                         |
|---------------------------|-------------------|------------------------------------------------------|
| Logistic Regression       | Solver            | lbfgs, liblinear, saga                               |
|                           | C                 | 0.01, 0.1, 0.5, 1, 5, 10                             |
| Random Forest Classifier  | criterion         | gini, entropy, log_loss                              |
|                           | n_estimators      | 600, 800, 1000, 1200                                 |
|                           | max_depth         | 4, 6, 8, 10, 15, 20, 30, 40                          |
|                           | min_samples_split | 4, 6, 8, 10, 12                                      |
|                           | max_features      | sqrt, log2                                           |
| Support Vector Classifier | kernel            | linear, poly, rbf, sigmoid                           |
|                           | C                 | 0.1, 0.2, 0.4, 0.6, 1, 1.2, 1.6, 2, 4, 6, 8, 10, 100 |
|                           | gamma             | scale, auto                                          |