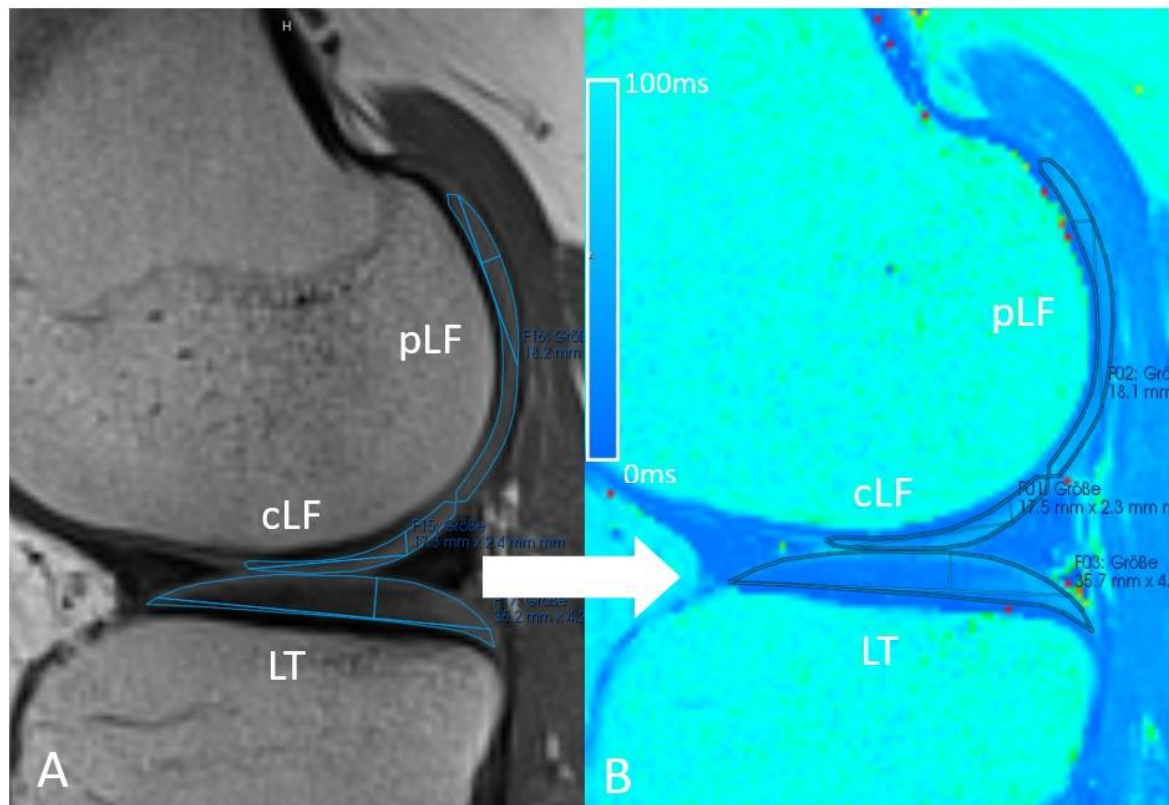


# Association of layer-specific knee cartilage T2-relaxation measurements with age, sex and cartilage morphology at 1.5T MRI

## ELECTRONIC SUPPLEMENTARY MATERIAL

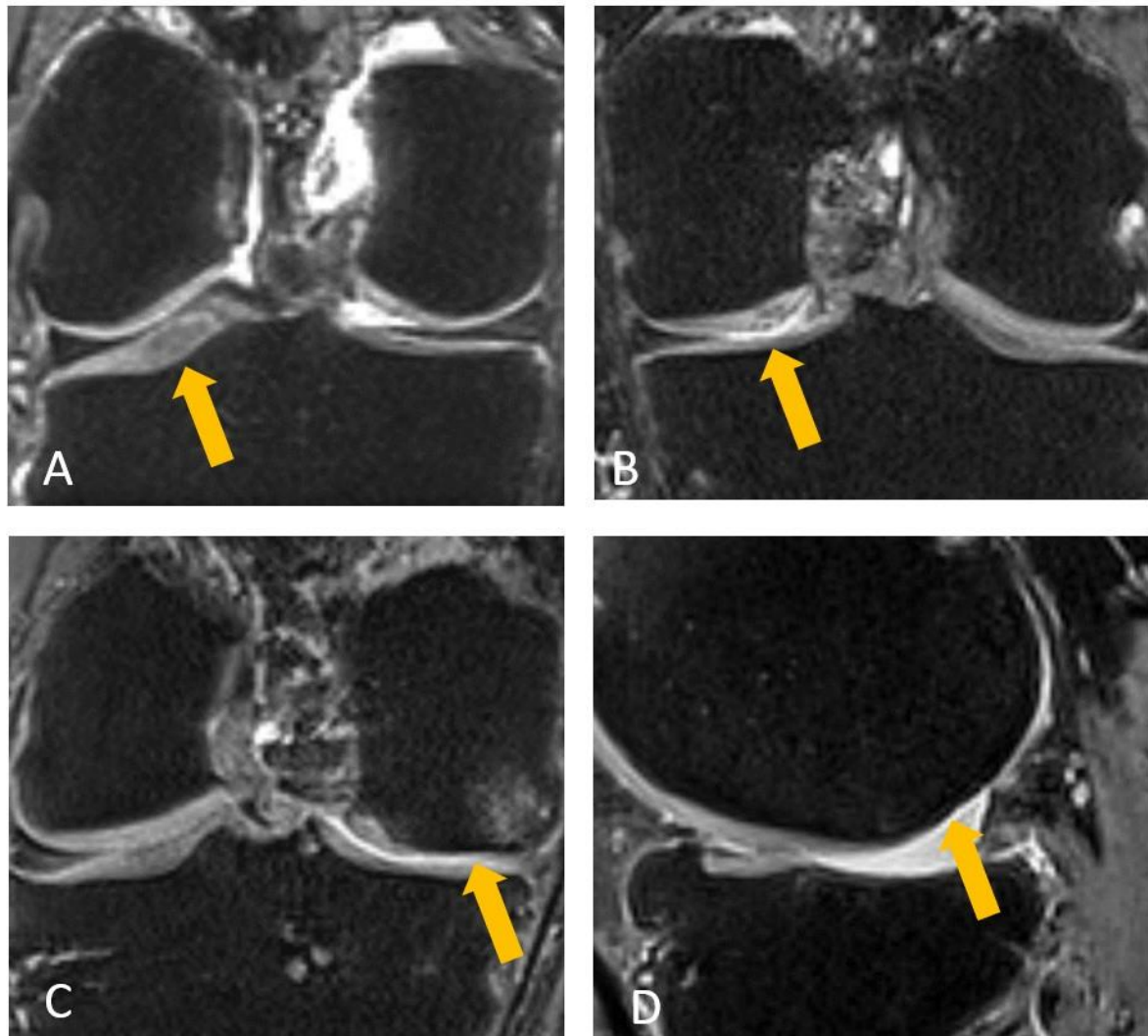
**Suppl. Fig.1:** Illustration of ROI analysis in the lateral articular compartment: placement of ROI in the sagittal T2 MSME-SE sequence (A), then copying ROI to the T2-color map (B).



Source: study participant from the SHIP-TREND-1 data pool.

**Suppl. Fig. 2:** Modified Noyes grading in MRI

The coronal (A, B, C) and sagittal proton-weighted fat-saturated images show an internal signal change of the tibial articular cartilage (grade 1, A) and a cartilage defect <50 % of the total thickness (grade 2, B); a cartilage lesion >50 % of the total of the total thickness in the area of the femoral condyle (grade 3, C), a defect that extends to the subchondral bone (grade 4, D)



Source: study participant from the SHIP-TREND-1 data pool.

**Supplementary Table: Parameters of the MRI sequences used.**

|                             | <b>T1 SE<br/>axial</b> | <b>T1 SE<br/>coronar</b> | <b>3D PD fat-sat<br/>SPACE<br/>sagittal</b> | <b>T2 MSME-SE<br/>sagittal</b>       |
|-----------------------------|------------------------|--------------------------|---------------------------------------------|--------------------------------------|
| <b>TR (ms)</b>              | <b>305</b>             | <b>511</b>               | <b>1200</b>                                 | <b>1060</b>                          |
| <b>TE (ms)</b>              | <b>11</b>              | <b>11</b>                | <b>30</b>                                   | <b>13,8/27,6/41,4/<br/>55,2/69,0</b> |
| <b>field of view (mm)</b>   | <b>160 * 160</b>       | <b>160 * 160</b>         | <b>180 * 180</b>                            | <b>160 * 160</b>                     |
| <b>matrix (pixel)</b>       | <b>154 * 192</b>       | <b>205 * 256</b>         | <b>258 * 256</b>                            | <b>256 * 256</b>                     |
| <b>slice thickness (mm)</b> | <b>3,0</b>             | <b>3,0</b>               | <b>0,7</b>                                  | <b>3,0</b>                           |
| <b>bandwidth (Hz/Pixel)</b> | <b>151</b>             | <b>149</b>               | <b>698</b>                                  | <b>227</b>                           |
| <b>scanning time (min)</b>  | <b>01:10</b>           | <b>01:44</b>             | <b>07:05</b>                                | <b>02:23</b>                         |