

Electronic Supplementary Information

Analysis of human menisci degeneration via infrared attenuated total reflection spectroscopy

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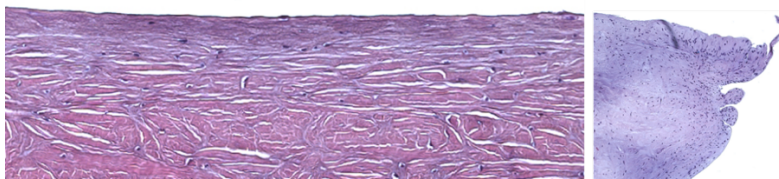
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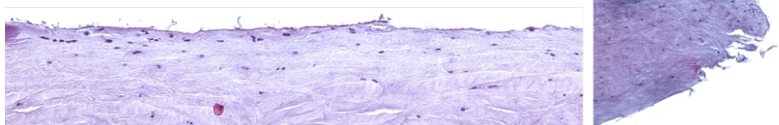
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Histological staining classification of the samples

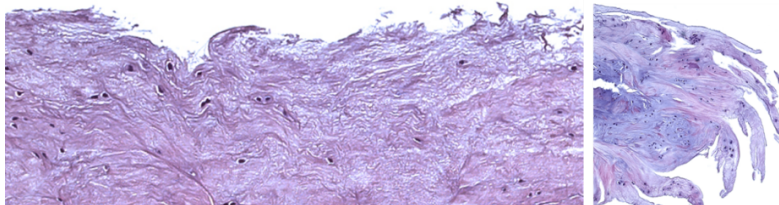
A



B



C



D

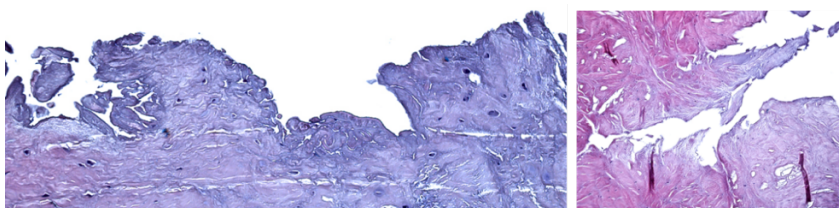


Figure S1. Histological assessment. Increasing degeneration from A to D. Left: femoral/tibial, Right: Inner border. (A) Smooth articular surface/inner border. (B) Slightly fibrillated

surface/inner border. (C) Obvious moderate undulated surface/inner border. (D) Disruption of the surface/inner border. H&E 10x.

IR-ATR spectra of human menisci sample

Attenuated total reflection infrared spectroscopy spectra were recorded via a Bruker Alpha FT-IR spectrometer equipped with a single-reflection ATR module (Platinum ATR). Spectra were acquired in the spectral range 4000-800 cm^{-1} with a spectral resolution of 2 cm^{-1} as an average of 500 spectral scans. Figure S2 depicts an example of a raw IR-ATR spectra obtained for a meniscus sample with grade 3 degeneration. For further analysis, spectra were subjected to smoothing and baseline correction prior second derivative Gaussian peak-fit model.

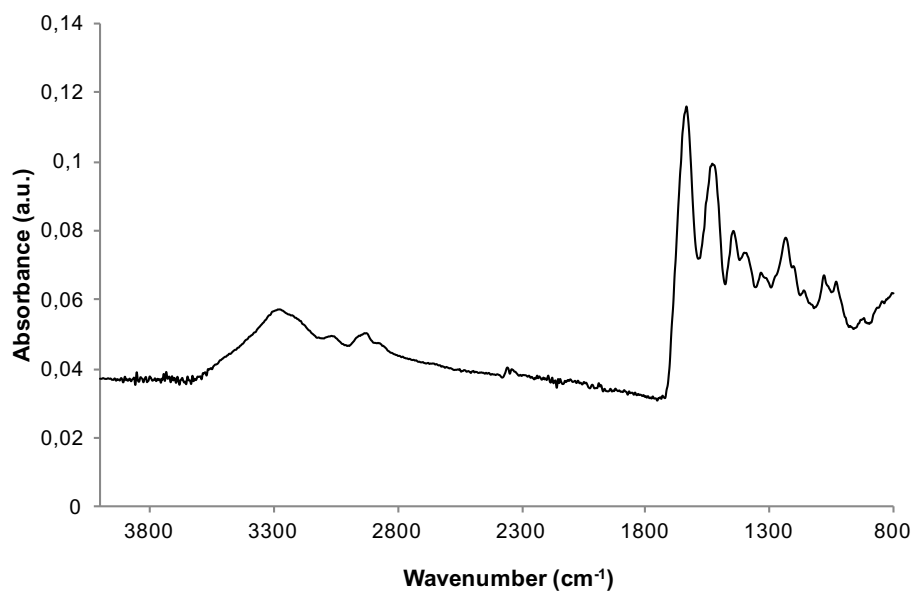


Figure S2. IR-ATR spectrum in the region 4000-800 cm^{-1} of a meniscus samples with grade 3 degeneration.