|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Scores** |  |  |  |
| **Gross Feature** | **1** | **2** | **3** | **4** | **5** |
| Synovial Evaluation | Thickened capsule, Diffuse Moderate ↑ vascularity, severe discoloration | Diffuse Moderate ↑ vascularity, severe discoloration | Diffuse ↑vascularity, slight discoloration | Focal ↑vascularity,  Slight discoloration | Normal |
| Palmar/ Plantar condyle | Full thickness erosions/ moderate to severe score lines | Moderate fibrillation/ mild score lines | Mild irregularities/  Mild fibrillation/ roughened | Thin/discolored | Normal |
| Lesion | Coalescing islands/absent cartilage | 25-50% coverage | 50-75% coverage | 95-100% | Normal |
| Color of repair tissue | No repair tissue | Translucent | Predominantly translucent | Predominantly white (>50%) | Normal |
| Surface of repair | No repair tissue | Incomplete | Fibrillated | Smooth heterogeneous | Smooth homogeneous |
| Osteophyte Development | Severe | 75% | Moderate | 25% | Normal |

**Table S2** Gross morphology scoring. Gross morphology images were scored for six metrics on a scale of 1 to 5 based on OARSI scoring system [38,40].