**Supplementary Material 5.** Definitions of severity degree in lower extremity joint disorders

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| Grade | Definitions |
| Level | Number |
| 1 | 2 | ROM of all three major joints of both legs decreased by ≥75% |
| 2 | 4 | ROM of two of three major joints of each leg decreased by ≥75% |
| ROM of all three major joints of both legs decreased by ≥50% and <75% |
| 3 | 5 | ROM of all three major joints of one leg decreased by ≥75% |
| 4 | 1 | ROM of two of three major joints of each leg decreased by ≥50% and <75% |
| ROM of all three major joints of both legs decreased by ≥25% and <50% |
| 2 | ROM of the hip or knee joint of one leg decreased by ≥90% |
| 5 | ROM of two of three major joints of one leg decreased by ≥75% |
| ROM of all three major joints of one leg decreased by ≥50% and <75% |
| 5 | 1 | ROM of the hip or knee joint of one leg decreased by ≥75% and <90% |
| 2 | ROM of the ankle joint of one leg ≥90% |
| 6 | ROM of two of three major joints of one leg decreased by ≥50% and <75% |
| ROM of all three major joints of one leg decreased by ≥25% and <50% |
| 7 | ROM of all toes of both feet decreased by ≥75% |
| 6 | 2 | ROM of the hip or knee joint of one leg decreased by ≥50% and <75% |
|  | 3 | ROM of the ankle joint of one leg decreased by ≥75% and <90% |

ROM, range of motion

The three major joints refer to the hip, knee, and ankle.