**Supplementary File 2.** Characteristics of included literature.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Author | Country | N (total sample) | Measure | Post-operative time | Age(years) | Height(m)/  BMI(Kg/m) | Weight(kg)/  BMI(Kg/m) |
| Georgoulis,2003 | Greece | 31 | gait velocity (m/s)  Peak Knee flexion angle (°) | 7 month | C:24.7±3.7 E:25±4 | C:1.73±0.05 E:1.73±0.06 | C:62.1±12.4kg E:69.1±7.9kg |
| Czamara,2015 | Poland | 62 | Peak Knee flexion angle(°) | 3.2 month | C:25.93±4.57 E: 28.65±8.57 | C:1.81±0.07 E:1.81±0.09 | C:80.4±12.3 E:81.9±11.7 |
| Padhye,2023 | USA | 60 | Averaged gait velocity (m/s) | 48 month | C:22.7±2.9  E:22.3±4.4 | C:73±15.7 E:73.1±15.7 | N/A |
| Noehren,2013 | USA | 40 | Peak Knee flexion angle (°) | 62 month | C:26±5.1 E:25±6.2 | C:1.6±0.06 E:1.6±0.06 | C:61±5.1 E:64±8.2 |
| Büttner,2024 | USA | 116 | Gait speed (m/s) | 3.76, 5.74, 11.4 month | C:21.6±4.3 E: 21.8±4.7 | C:BMI:24.5±3.2 E:BMI:24.2±3.2 | C:BMI:24.5±3.2  E:BMI:24.2±3.2 |
| Armitano-Lago,2020 | USA | 32 | Velocity (m/s) | 107 month | C:28.90±6.24 E:29.25±6.9 | C:1.71±0.09 E: 17.4±0.07 | C:74.61±17 E:81.46±14 |
| Skvortsov ,2020 | Russia | 40 | Peak Knee flexion angle (°) | 12 month | C:34.2 E:29.7 | N/A | N/A |
| Leporace,2016 | Brazil | 22 | Gait Velocity（m/s） | 11 month | C:27.3±2.7 E:33.1±11.1 | C:1.80±0.04 E: 1.82±0.03 | C:82.1±9.5 E:82.1±7.4 |
| Davis-Wilson,2019 | USA | 60 | Walking speed (m/s） | 6, 12 month | C:22 ±4 E:22 ±3 | C:BMI:23.6±2.1 E:BMI: 23.8±2.2 | C:BMI:23.6±2.1 E:BMI:23.8±2.2 |
| Goetschius,2018 | USA | 58 | Peak Knee flexion motion(°) | 103 month | C:22.4±3.2 E:26.7±4.4 | C:1.71±0.13  E: 1.73±0.1 | C:68.9±13.1 E:69.5±12.7 |
| Davis,2018 | USA | 40 | Walking Speed (m/s) | 84 month | N/A | C:BMI:22.4±2.4  E:BMI: 25±3.5 | C:BMI:22.4±2.4  E:BMI: 25±3.5 |
| Hadizadeha,2016 | Malaysia | 37 | Mean gait velocity (m/s) | 3 month | C:21.5±1.0  E:23.6±5.4 | C:1.66±0.07 E:1.69±0.09 | C:61.7±11.3 E:66±13.8 |
| Patterson,2013 | Ireland | 34 | Gait velocity(m/s) | 42 month | C:20.8±1.17 E:23.7±3.12 | C: 1.65±0.06 E: 1.64±0.05 | C:64.7±7.06 E:64.9±9.02 |
| Zabala,2013 | USA | 90 | Peak Knee Flexion Momen(Nm/kg) | 26 month | C:30.2±4.68 E:29.5±6.1 | C: 1.73±0.09 E: 1.72±0.10 | C:74.2±12.3 E:74.4±12.4 |
| Lewek ,2002 | USA | 28 | Peak Knee Flexion moment  Peak Knee flexion angle (°)  Peak Knee Flexion (°) | 3.3, 4.8 month | C:32.2±6.6 E: 25 ±7.8 | N/A | N/A |
| Michelle Hall,2012 | Australia | 32 | Peak Knee flexion angle (°) | 72 month | C:26 ±4 E: 26±6 | C: 1.7±0.12 E: 1.74±0.14 | C:68±2 E:75±15 |
| Karimi ,2013 | Iran | 30 | Gait speed (m/s) Peak Knee Flexion moment (Nm/kg) | 6 month | C:32±3 E: 33±2.6 | C:1.74±0.06 E:1.75±0.05 | N/A |
| Reed Ferber,2002 | USA | 20 | Peak Knee flexion moments (Nm/kg) | 3, 4 month | C:24.4±3.1 E:27.7±9.1 | C: 1.7±0.09 E: 1.66±0.2 | C:67.2±10.7 E:79.1±13.8 |
| Kono,2023 | Japan | 62 | Peak Knee flexion angle(°) Peak knee flexion moment(Nm/kg/m) | 12 month | C:24.07±4.73 E:25.91±11.61 | C: 1.68±0.09 E: 1.66±0.09 | C:63.5±12.4 E:64.1±12.6 |
| Zsolt Knoll,2004 | Hungary | 76 | Peak Knee flexion angle(°) | 8, 12 month | C:31.70±4.1 E:34.78±6.91 | C: 1.71±0.12 E: 1.73±0.57 | C:72.1±25.2 E:84.7±15.6 |