Table H-17. Strength of evidence for Key Question 2b intermediate outcomes: effect of physical activity interventions on pulmonary function tests

| **Intervention**  **Category,**  **Intervention** | **Comparator** | **Outcome** | **Number of Studies (Participants)**  **Author Year**  **(See Appendix B for Full Citation)** | **Study Limitations** | **Consistency** | **Precision** | **Reporting Bias** | **Strength of Evidence** | **Findings, Direction and Magnitude of Effect** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Aerobic Exercise in SCI | *Usual care* | Pulmonary function | 1 cohort study (n=17).  Valent, 2010 | Moderate | Unknown | Imprecise | Undetected | Insufficient | Mean change scores, p=between groups:  FVC%: -9.4 vs. -7.8, p=0.619  PEF%: -12.6 vs. -10.0, p=0.722 |
| Aerobic Exercise in SCI | *Head-to-head comparison of aerobic programs* | Pulmonary function | 1 RCT (n=33)  Akkurt, 2017 | Moderate | Unknown | Imprecise | Undetected | Insufficient | Median change,  VO2Peak (ml/kg/min): 4.30 vs. 1.35, p=0.02  FEV1 (ml): -0.14 vs. 0.17, p>0.05  FEV1 %: 1 vs. 5, p>0.05  FVC (ml): -0.31 vs. -0.20, p>0.05  FVC %: 1.5 vs. 1.5, p>0.05  FEV1/FVC, 3.51-0.50, p>0.05 |
| Aerobic Exercise in SCI | *Head-to-head comparison of aerobic programs* | Pulmonary function | 1 RCT (n=20)  Jung, 2014 | Moderate | Unknown | Imprecise | Undetected | Insufficient | Mean change scores, p=between groups:  FVC(L): 1.8 (1.3) vs. 0.31 (1.6), p=0.031  FEV1(L): 1.1 (1.2) vs. 0.21 (0.3); p=0.038  FER(L/sec): 10.0 (9.7) vs. 5.4 (7.0), p=0.238  FEV1/FVC: 3.7 (2.3) vs. 2.1 (3.4), p=0.243 |
| Strength  Exercise  in SCI | *Usual Care* | Pulmonary function | 1 RCT (n=98)  Chen, 2016 | Moderate | Unknown | Imprecise | Undetected | Insufficient | Mean (SD), p=post-intervention:  FEV1: 1.17 (0.25) to 2.20 (0.45) vs. 1.17 (0.45) to 1.14 (0.44), p<0.05  FVC: 2.16 (0.36) to 2.98 (0.54) vs. 2.16 (0.42) to 2.17 (0.42), p<0.05  MVV: 50.5 (11.8) to 75.2 (6.8) vs. 50.5 (11.8) to 51.5 (10.6), p<0.05  FEV1/FVC: 0.53 (0.17 to 0.75 (0.08) vs. 0.53 (0.17) to 0.52 (0.15), p<0.05 |

**Abbreviations:** FER= Forced Expiratory Flow Rate; FEV1 = forced expiratory volume; FVC = forced vital capacity; MVV = maximal voluntary ventilation; NA = not applicable; RCT = randomized controlled trial; SCI = spinal cord injury