|  |  |  |  |
| --- | --- | --- | --- |
| **Authors** | **Parameters** | **Thresholds** | **Algorithm’s rationale** |
| ***Chen et al.*** | (1) | >3 g  Set arbitrarily based on empirical data (>20°) | IMPACT DETECTION  +  CHANGE IN ORIENTATION |
| ***Kangas et al. (1a)*** | (2) | >2 g  <0.5 g | IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (1b)*** | (3) | >1.7 g  <0.5 g | IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (1c)*** |  | >2 g  <0.5 g | IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (1d)*** |  | >1.5 g  <0.5g | IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (2a)*** | (start of fall) | <0.6 g  >2 g  <0.5g | START OF FALL  +  IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (2b)*** | (start of fall) | <0.6 g  >1.5 g  <0.5g | START OF FALL  +  IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (3a)*** | (start of fall) | <0.6 g  >0.7 m/s  >2 g  <0.5g | START OF FALL  +  VELOCITY  +  IMPACT DETECTION  +  POSTURE MONITORING |
| ***Kangas et al. (3b)*** | (start of fall) | <0.6 g  >0.7 m/s  >1.5 g  <0.5g | START OF FALL  +  VELOCITY  +  IMPACT DETECTION  +  POSTURE MONITORING |
| ***Bourke et al. (1(a))*** |  | >UFT 1.79 g | IMPACT DETECTION |
| ***Bourke et al. (1(b))*** |  | <LFT 0.73 g | IMPACT DETECTION |
| ***Bourke et al. (2)*** |  | >1.79 g | IMPACT DETECTION  +  POSTURE DETECTION |
| ***Bourke et al. (3)*** |  | <-0.7 m/s  >UFT 2.8 g  <LFT 0.65 g  60° | VELOCITY  +  IMPACT DETECTION  +  POSTURE |

(1)An angle of change can be estimated using the dot product of the acceleration vectors before a fall and after, where the vectors are from averaging over 1-second windows. (2-3)Accelerometric data were low-pass (LPF) or high-pass (HPF) filtered () with a digital second order Butterworth filter.