**Specific Wii Games and their Therapeutic Goals for Certain Diagnoses**

**Frail Adults- Nsg Home- Decrease Fall Risk (Yu et al 2015):**

Indicated: Soccer, table tilt, and balance bubble

**Improved Balance in the Elderly:**

**Activity Selection for ‘‘Wii Fit Plus’’ (**BOWER ET AL. 2013)

**Activity name: Balance state/Base of support/Balance demands**

**Yoga:**

-Deep Breathing: Stationary/Fixed/Minimizing COM sway during bilateral stance

-Standing Knee: Stationary/Fixe/Minimizing COM sway during single leg stance

-Half Moon: Stationary/Fixed/Minimizing COM sway during trunk lateral flexion

**Strengthening**

-Torso and Waist Twists: Dynamic/Fixed/Minimizing COM sway during spinal rotations

-Rowing Squat: Dynamic/Fixed/Controlling COM during externally paced squatting

-Sideways Leg Lift: Dynamic/Fixed/Minimizing COM sway during externally paced hip abduction

**Balance:**

Table Tilt: Dynamic Fixed Controlling COM in ML and AP directions

Balance Bubble: Dynamic Fixed Controlling COM in ML and AP directions

Penguin Slide: Dynamic Fixed Controlling COM in ML direction

Soccer Heading: Dynamic Fixed Controlling COM in ML direction

Ski Slalom: Dynamic Fixed Controlling COM in ML and AP directions

Ski Jump: Dynamic Fixed Controlling COM during squat hold and rise

**Aerobic:**

Free Jogging: Dynamic Changing Self-paced with a single-leg stance component

Free Step: Dynamic Changing Externally paced with a single-leg stance component

**Training Plus (Not available at Hawfields currently)**

Perfect 10: Dynamic Fixed Controlling COP in ML and AP directions + dual-task

Segway Circuit: Dynamic Fixed Controlling COP in AP direction + dual-task

Obstacle Course: Dynamic Changing Self-paced with a single-leg stance component + dual-task

Cycling: Dynamic Changing Self-paced with a single-leg stance component + dual-task

**Increase Balance in Alzheimer’s (mild dementia)**

Padala et al, 2012:

-Yoga: half-moon, warrior, chair and sun salutation

-Strength: SLE, lunges, torso-twist

-Balance: soccer, ski jump, ski slalom, table tilt, penguin slide, balance bubble

**Parkinsons:**

To Improve:

-Static Balance: single leg extension and torso twist

-Dynamic Balance: table tilt, tilt city, soccer, penguin slide

-Stationary gait: rhythm parade, obstacle course, basic step and basic run

-Cognitive demands: attention to solve the tasks, working memory and performance management, as these games require short term memory, stimulated division of attention between UE and LE

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**Mendes et. Al 2012:**

-Games requiring multidirectional shifts in the player’s center of gravity: Table Tilt, Tilt City, Penguin Slide, and ~~Soccer Heading~~

-Games involving alternating steps: ~~Obstacle Course~~, Rhythm Parade, ~~Basic Run Plus,~~ and Basic Step

-Games required stationary control of the player’s center of gravity: Single Leg Extension and Torso Twist

For cognitive demands, all 10 games involved attention, rapid responses to visual stimuli and performance assessment by visual and auditory feedback between trials.

-Three of the games required planning: Torso Twist, Penguin Slide and Tilt City

-Two games involved a dual motor task: Rhythm Parade and Tilt City

-One game required a dual motor and cognitive task Basic Run Plus

-Two games entailed decision-making and response inhibition Obstacle Course and Soccer Heading

**CONTRAINDICATIONS**: all of them are indicated for therapeutic use in pts with PD **except**: soccer, obstacle course and basic run plus due to high cognitive demands

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**Herz et al 2013:**

2 games of bowling, 2 of tennis, 1 of boxing

Boxing: BUE movements and increase HR and aerobic exercise

All 3 required full body motion and balance

**LE Joint Replacements**

Games that focus on lateral weight shift, multi directional balance and static and dynamic postural control as well as games that improve balance, gait and fear of falling and aerobic capacity.

Total Knee/Hip:

Fung et al 2012:

Lateral Weight Shift: ski slalom, tight rope, penguin slide

Multi-Directional Balance: table tilt, hula-hoop, balance bubble

Static and Dynamic Postural Control: deep breathing, half moon, torso twist

The overall “Balance Test” is a good measured of weight distribution.

**Amputations**

Miller et al 2012:

Improve balance, gait, and fear of falling and aerobic capacity

Indicated: Tilt table, Skiing, Tightrope

**Neuropathy:**

Promote strength, flexibility, increasing limits of stability and reaction time

Hakim et al, 2014:

Impairment Level:

-Ski Jump: weight shift and anterior hold, responding to audiovisual cues

-Hula: weight shift in multiple directions without stepping

Strategy Level:

-Soccer, Bubble maze, Penguin Slide

Functional level:

-Yoga chair, yoga breathing, ski slalom, bubble balance, ski jump, and penguin slide

**Stroke:**

Improve weight shifting, symmetric foot stepping, controlled movements near limits of stability, to improve balance control and cognitive-motor interference.

Subramaniam et al, 2014:

-Table tilt

-Tight rope

-Soccer

-Balance Bubble

(Plus a cognitive task in addition)

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