

## Appendix 2 - Minimal Impairment Criteria for Playing Wheelchair Badminton

### Profile descriptions:

#### Wheelchair 1 players profile description

Players demonstrate a limitation in function based on muscle power and range of motion of the trunk and possibly upper limbs while performing during match or training.

#### Wheelchair 2 player profile description

Players demonstrate a limitation in function based on limited muscle power or range of motion, requiring the use of assistive devices in walking. A shift in the centre of gravity may lead to loss of balance e.g. attempting to pivot or stop and start.

Eligible Impairment Type	Examples of health conditions	Sport Class WH 2	Sport Class WH 1
<b>Hypertonia</b>	Cerebral palsy, stroke, acquired brain injury, multiple sclerosis.	Spastic/ataxic/athetoid hemiplegia/ diplegia/ quadriplegia with severe involvement of lower limb but with no or mild involvement of upper limbs or trunk.	Spastic/ataxic/athetoid hemiplegia/diplegia/ quadriplegia with marked involvement of lower limb but with mild to moderate impairment of upper limbs or trunk.
<b>Ataxia</b>	Ataxia resulting from cerebral palsy, brain injury, Friedreich's ataxia, multiple sclerosis, spinocerebellar ataxia	Demonstrate a limitation in function based on spasticity, ataxia, athetosis or dystonic movements on the legs requiring the use of assistive devices in walking. A shift of centre of gravity may lead to loss of balance e.g. attempting to pivot or stop and start.	Demonstrate a limitation in function based on spasticity, ataxia, athetosis or dystonic movements of upper limb or and trunk while performing during match or training.
<b>Athetosis</b>	Cerebral palsy, stroke, traumatic brain injury	Clear evidence must include spasticity grade 3 on the legs usually rendering them non-functional for ambulation over a long distance without the use of assistive devices. A wheelchair is usually the choice for sport.	

Eligible Impairment Type	Examples of health conditions	Sport Class WH 2	Sport Class WH 1
<b>Limb deficiency</b>	Amputation resulting from trauma or congenital limb deficiency (dysmelia)	<p>Player must have ONE of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Unilateral amputation above the knee with a stump length not more than half of the upper leg measured on the non-amputated leg from the spina iliaca anterior superior (ASIS) to the medial knee (mid joint on medial site) articulation.</li> </ol> <p>*Stump should be measured from ASIS to the end of the bony part on the medial side (by palpation).</p> <ol style="list-style-type: none"> <li>2. Bilateral amputation: one amputation through or above the knee and the other below the knee (ankle completely missing).</li> </ol> <p>Equivalent congenital limb deficiency equivalent point 1 or 2 above.</p>	<p>Player must have ONE of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Same criteria as WH2 plus involvement of at least one upper limb with the same minimal criteria for the playing and non-playing arm or the scoliosis criteria (or equivalent spinal deformity);</li> </ol> <p>*Scoliosis criteria <math>\geq 60</math> degree (by x-ray or inclinometer).</p> <p>OR</p> <ol style="list-style-type: none"> <li>2. Double above knee amputation, without significant improvement in trunk balance once Player is seated in their sports chair. Other Players with double above knee amputations who are eligible to play in wheelchair will play in WH2.</li> </ol>
<b>Impaired Passive Range of Movement (PROM)</b>	Arthrogryposis, ankylosis, post burns joint contractures	<p>Impairment of PROM that meets FIVE (5) of the following criteria in one lower limb:</p> <p>Criterion #1 – Hip flexion deficit of <math>&gt;45</math> degree.</p>	<p>Same criteria as WH2 plus involvement of at least one upper limb with the same minimal criteria for the playing and non-playing arm or the scoliosis criteria. – continue next page</p> <p>Or</p>

Eligible Impairment Type	Examples of health conditions	Sport Class WH 2	Sport Class WH 1
		<p>Criterion #2 – Hip Extension deficit of &gt;25 degree.</p> <p>Criterion #3 – Knee Flexion deficit of &gt;60 degree.</p> <p>Criterion #4 – Knee Extension deficit of &gt;30 degree.</p> <p>Criterion #5 – Less than or equal to 10-degree ankle dorsiflexion and a maximal ankle PROM of 10 degree.</p> <p>Criterion #6 – Less than or equal to 20-degree plantar flexion and a maximal ankle PROM of 10 degree.</p>	<p>At least eight (8) criteria in both lower limbs:</p> <p>Criterion #1 – Hip flexion deficit of &gt;45 degree.</p> <p>Criterion #2 – Hip Extension deficit of &gt;25 degree.</p> <p>Criterion #3 – Knee Flexion deficit of &gt;60 degree.</p> <p>Criterion #4 – Knee Extension deficit of &gt;30 degree.</p> <p>Criterion #5 – Less than or equal to 10 degree ankle dorsiflexion and a maximal ankle PROM of 10 degree.</p> <p>Criterion #6 – Less than or equal to 20 degree plantar flexion and a maximal ankle PROM of 10 degree.</p>
<b>Impaired Muscle Power</b>	Spinal cord injury, muscular dystrophy, brachial plexus injury, Erb palsy, polio, spina bifida, Guillain-Barré syndrome	<p>Impairment of Muscle power that meets FIVE (5) of the following criteria in one lower limb or FOUR in one leg and TWO (2) in the other leg.</p> <p>Criterion #1 – Hip flexion loss of 3 muscle grade points (muscle grade of two).</p>	<p>Same criteria as WH2 plus involvement of at least one upper limb with the same minimal criteria for the playing and non-playing arm or the scoliosis criteria.</p> <p>Or</p> <p>At least 14 criteria in both lower limbs:</p>

Eligible Impairment Type	Examples of health conditions	Sport Class WH 2	Sport Class WH 1
		<p>Criterion #2 – Hip extension loss of 3 muscle grade points (muscle grade of two)</p> <p>Criterion #3 – Hip Abduction loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #4 – Hip Adduction loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #5 – Knee extension loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #6 – Knee flexion loss of 3 muscle grade points (muscle grade 2)</p> <p>Criterion #7 – Ankle plantar flexion loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #8 – Ankle dorsi flexion loss of 3 muscle grade points (muscle grade of two)</p> <p>Or</p> <p>Complete paraplegia L2 and below (neurological L2)</p>	<p>Criterion #1 – Hip flexion loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #2 – Hip extension loss of 3 muscle grade points (muscle grade of two)</p> <p>Criterion #3 – Hip Abduction loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #4 – Hip Adduction loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #5 – Knee extension loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #6 – Knee flexion loss of 3 muscle grade points (muscle grade 2)</p> <p>Criterion #7 – Ankle plantar flexion loss of 3 muscle grade points (muscle grade of two).</p> <p>Criterion #8 – Ankle dorsi flexion loss of 3 muscle grade points (muscle grade of two)</p> <p>Or</p> <p>Complete paraplegia L1 and above (neurological L1)</p>

Eligible Impairment Type	Examples of health conditions	Sport Class WH 2	Sport Class WH 1
<b>Leg length difference</b>	Congenital or traumatic cause of bone shortening in one leg	Comparable to limb deficiency	Comparable to limb deficiency.

Note: The minimal impairment criteria must be accompanied by the trunk balance assessment and the technical assessment on the court. The trunk balance, in general, should be good in WH2 and poor in WH1.