

2016 DOD WARRIOR GAMES: CYCLING RULES

2016 DoD Warrior Games *is not* a qualifying event for the Paralympic Games or any other U.S. Paralympics or International Paralympic Committee (IPC) sanctioned event. The 2016 DoD Warrior Games will be conducted under the Union Cycliste Internationale (UCI) Para-cycling rules with modifications and are located at <http://www.uci.ch/inside-uci/rules-and-regulations/regulations/>.

1. DISABILITY CLASSIFICATION CATEGORY BY EVENT:

1.1. Handcycle Classifications:

1.1.1. Classification OPEN:

- Open cycling classification includes orthopedic diagnoses limiting the use of lower extremity/foot powered cycles.

1.1.2. Classification K5: Kneeler Handcycle

- Kneeling cyclist will race in the in H5 category but scored separately.

1.1.3. Classification H5

- Paraplegia (The loss of motor or sensory function in lower extremities)
- T11- L5 spinal cord injury
- Partial loss of function in hips and lower limbs
- Lower extremity amputations: ankle and higher
- Normal arm and hand function
- May utilize assistive device for mobility
- May display decreased trunk function caused by spinal cord injury
- Normal arm and hand function
- May utilize assistive device for mobility

1.1.4. Classification H4

- Paraplegia (the loss of motor or sensory function in lower extremities)
- T6-T10 spinal cord injury
- Partial or complete loss of lower limb function
- Normal arm and hand function
- May display decreased trunk function as determined by functional testing. This is evident, as the athlete must utilize upper extremities to return to the upright-seated position when in the forward plane.
- Single hemipelvectomy (single side high level pelvic amputation).
- Utilizes assistive device for mobility



1.1.5. Classification H3

- Paraplegia (the loss of motor or sensory function in lower extremities)
- T5-T1 spinal cord injury
- Complete loss of lower limb function caused by spinal cord injury
- Normal arm and hand function
- Athletes will display decreased trunk function caused by level of spinal cord injury. This is evident, as the athlete must utilize upper extremities to return to the upright-seated position when in the forward plane.
- Normal arm and hand function
- Bilateral hemipelvectomy
- Athletes may utilize wheelchair for mobility

1.1.6. Classification H2

- Tetraplegia (is also referred to as quadriplegia and includes partial or total loss of use of all limbs and torso and is usually involves both sensory and motor).
- C7-C8 spinal cord injury
- Minimal upper body limb impairments to include but not limited to: Limited handgrip, impairments in triceps and biceps
- Athletes will display decreased trunk function caused by level of spinal cord injury. This is evident, as the athlete must utilize upper extremities to return to the upright-seated position when in the forward plane.
- Athletes must utilize wheelchair for mobility

1.1.7. Classification H1

- C1-C6 spinal cord injury
- Severe upper body limb impairments to include but not limited to: Limited handgrip, decreased wrist function, impairments in triceps and biceps
- Complete loss of trunk and lower limb function
- No active trunk rotation
- Little to no controlled trunk movements in forward plane
- Athletes must utilize wheelchair for mobility

1.2. Recumbent Cycle Classifications:

- 1.2.1. Classification OPEN: Open recumbent cycling classification includes orthopedic disabilities and/or balance problems that prohibit athletes from riding a two-wheel upright bike or hand cycle and allows the use of the recumbent cycle. Requires medical documentation.



1.2.2. Classification T2

- Minimum loss of loco motor function
- Moderate loss of balance (20%-40% loss on functionality test)

1.2.3. Classification T1

- Severe loco motor dysfunction as determined by functional testing
- Severely impaired balance as determined by functional testing: Balance in both forward and sideways directions is significantly impaired (greater than 40% loss of balance on functional test).

1.3. **Upright Cycle Classifications:**

1.3.1. Classification C6 (OPEN)

- PTSD/TBI with minimal physical impairments
- Minor orthopedic injuries

1.3.2. Classification C5

- Athletes with upper body impairments
- Above or below elbow amputations
- Above or below elbow dysfunction
- 40% loss of strength, mobility, or flexibility in wrist, shoulder, or elbow joint
- Severe nerve damage in upper limb

1.3.3. Classification C4

- Below knee amputations (amputation must be through the ankle)
- Above or below knee dysfunction
- Impaired muscle power: 40% Loss of strength, mobility, or flexibility in two joints (hip, knee, or ankle joint)
- Severe nerve damage to lower limb
- Athletes with a combination of both upper body and lower body impairments, to include hand and foot amputation, and/or measureable dysfunction

1.3.4. Classification C3

- Above the knee amputation (AKA)

1.4. **Tandem Bike Classification:**

1.4.1. Classification tandem VI athletes/blind (VI/B)

- Corrected bilateral visual acuity greater than 20/200, as evidenced through supporting medical documents provided to/by athlete.
- Above is achieved with the best practical eye correction



1.4.2. Classification tandem VI athletes OPEN (VI/O)

- Corrected visual acuity of 20/70 evidenced through supporting medical documents provided to/by athlete.
- Visual field cut of greater than 20 degrees in either eye, evidenced through supporting medical documents provided to/by athlete.
- Above is achieved with the best practical eye correction

2. **TEAM COMPOSITION:**

2.1. Each Service and invited or international team is allowed six athletes from each gender and for each disability/classification:

2.1.1. Six males per disability/classification

2.1.2. Six females per disability/classification

2.1.3. Ultimate Champion competitors will not count against the team allocated numbers.

3. **CYCLING EVENTS: Cycling Events by Classification, Gender, Distance, and Type of Cycle.** All events correlate with the Paralympic Standards and are demonstrated below in Figure 5.

Handcycle Class.	BIB Color	Gender	Distance	Type of Cycle
OPEN	Green	Male or Female	10 Kilometers	Hand cycles or Kneeler for K5
H5	Orange			
H4	Magenta			
H3	Blue			
H2	Red			
H1	Purple			
K5 (Kneeler)*	Gold			
Recumbent Cycle		Gender	Distance	Type of Cycle
Open	Green	Male	20 Kilometers	Recumbent Cycle
T1	Magenta			
T2	Blue			
Open	Green	Female	10 Kilometers	Recumbent Cycle
T1	Magenta			
T2	Blue			
Upright Cycle Class.		Gender	Distance	Type of Cycle
C6 Open	Green	Male	30 Kilometers	Upright Cycle
C5	Orange			
C4	Magenta			
C3	Blue			
C6 Open	Green	Female	20 Kilometers	Upright Cycle
C5	Orange			
C4	Magenta			
C3	Blue			
Visually Impaired Blind: (VI/B)	Yellow	Male or Female	30 Kilometers	Tandem Upright Cycle
Visually Impaired Open (VI/O)	Turquoise	Male or Female	30 Kilometers	Tandem Upright Cycle

Figure 5: 2016 DoD Warrior Games Cycling Events



4. **GENERAL CYCLING EVENT RULES:**

- 4.1. Races: Unless otherwise noted, all classification groups will race in their event together but will be scored separately.
- 4.2. Consolidation: See 2016 DoD Warrior Games General Rules Paragraph 2.7 for consolidation procedures.
- 4.3. Selected Union Cycliste Internationale (International Cycling Union (UCI)) equipment rules pertaining to the cycling events at the 2016 DoD Warrior Games are highlighted below, as well as additional general, USA Cycling, and/or UCI rules.
- 4.4. Race director will provide the following to each team's head coach no later than the daily coaches meeting the day before the race: Start list by classification/category, athlete names, and bibs (with numbers).
- 4.5. Bib and event verification: Each team's head cycling coach is responsible for athlete bib (correct color, classification, and event) and roster (correct classification and event) verification the evening before cycling competition.
- 4.6. Bibs and numbers: All competitors are required to wear the specific colored category bib number issued to them by event staff. Numbers must be placed on the backs of the torso (bicycles), or on the right side of the cycle or person (hand cycle and recumbent), as directed by race officials. Bibs will be inspected for proper placement prior to the start of the race. Athletes have the choice to clearly write athlete number, in marker, on their upper arm and thigh.
- 4.7. Starts: Each road race will begin as a stationary start; no rolling starts. There must be a minimum of two participants per event in order to run each event.
- 4.8. Helmets: All cycling competitors are required to wear a securely fastened helmet that meets either the U.S. DOT helmet standards or the U.S. Consumer Product Safety Commission (CPSC) standard for bicycle helmets. Athletes are not mandated to wear a specific helmet color.
- 4.9. Use of catheters: It is mandatory for cyclists who use catheters or other urinary diversion devices to prevent spillage by using a catheter bag at all times. This includes training, competition, and classification.
- 4.10. Bike safety checks: Race director or designee will inspect all cycling equipment on Friday, 17 June 2016, at the race start location. *All cycling equipment is subject to inspection at any time.*
- 4.11. Race support: Neutral cycling mechanic/technical support will be provided either in a vehicle or at designated area(s) along the course.
- 4.12. Coaches/Mechanics: Team coaches and/or mechanics are allowed on the course only in an official support vehicle.
- 4.13. Uniforms: Each team must wear their specific design and color cycling kits, which conform to the uniform color schemes listed in the 2016 DoD Warrior



Games General Rules: Paragraph 8.2.

- 4.14. Lead motor escort will be provided for each group for neutral start if race conditions necessitate for safety.

5. **GENERAL EQUIPMENT REGULATIONS:**

- 5.1. Handgrips and prosthesis: Artificial handgrips and prostheses are allowed on upper disabled limbs and cannot be permanently fixed to the cycle. For safety reasons, rigid prosthetic adaptations, including mounted or fixed on parts of the cycle, are not allowed.
- 5.2. Adjustments: All adjustments must be made prior to the start of the race. Adjustments will only be made at designated team service areas (pits).
- 5.3. Safety: Safety repairs are authorized only off the cycling race course. Note: in situations where barriers or crowds prevent off-course repairs, on-course repairs are allowed at the Neutral Support designated areas or to one side of the course. They must not inhibit, limit or slow down other riders.
- 5.4. Braking systems: All cycles must have two independent braking systems. If there is a braking system for the double wheels, it must involve both wheels. The braking systems must be dynamic; wheel locks or stoppers are not allowed.
- 5.5. Uniforms: When competing, all riders are required to wear a jersey with sleeves and a pair of shorts. One-piece skin suits are allowed and must conform to the team uniform design and colors.
- 5.6. Hand cycles:
- 5.6.1. Hand cycles are three-wheeled vehicles with an open frame of tubular construction and may be:
- 5.6.1.1. Arm powered (AP)
- 5.6.1.2. Arm-trunk powered (ATP)
- 5.6.1.3. Kneeling position (K5)
- 5.6.2. Hand cycles must conform to the general principles of UCI construction for bicycles except for:
- 5.6.2.1. The hand cycle chassis frame tubes need not be straight.
- 5.6.2.2. The seat or backrest construction, the maximum frame tube diameter may exceed the maximum defined by the general principles of UCI.
- 5.6.2.3. The single wheel may be of a different diameter than the double wheels.
- 5.6.2.4. The front wheel or wheels must be steerable.
- 5.6.2.5. The single wheel, either front or rear, must be driven through a



system comprising of handgrips and a chain.

5.6.2.6. The hand cycle must be propelled solely through a conventional cycle drive train consisting of crank arms, chain wheels, chain and gears, with handgrips replacing foot pedals. It shall be propelled from the hands, arms, and upper body only.

5.6.2.7. Recumbent position: In the recumbent position, hand cyclists must be able to see clearly. To measure, the horizontal of the athlete's eye line must be above the crank housing/crank set when he is seated with his hands on the handlebars facing forward at full extent, and the tip of his shoulder blades are in contact with the backrest and his head is in contact with the headrest.

5.6.2.8. Quick release body harnesses are permitted and must conform to the following measurements:

- From the recumbent position, the distance will be measured from the ground to the center of the athlete's eyes while seated and then compared to the distance between the ground and the middle of the crank housing/crank set.
- The distance from the eyes to the ground must be at least equal or greater than the distance of the middle of the crank housing to the ground.

5.6.3. Kneeling position: In the kneeling position, the athlete's legs and feet must be supported and protected from the ground surface.

5.6.4. Chain ring: The largest chain ring shall have a guard securely fitted to protect the rider. The guard shall be made of adequate solid material and fully cover the chain ring over half of its circumference (180°) facing the rider.

5.6.5. Leg and foot rests: Leg and foot rests shall be fitted, as necessary, with a secure means of protecting static, lower limbs from all moving parts.

5.6.6. Other safety measures:

5.6.6.1. Hand cyclists must wear shoes or sufficiently stiff foot protection, which completely covers the foot unless the hand cycle has a shell/structure which allows the feet to rest with no risk of coming out.

5.6.6.2. In such cases, athletes are required, at a minimum, to wear socks. In all cases, the feet should also be fixed to the bike with some sort of device, which prevents the feet from falling out of the footrest.

5.7. Recumbent cycles:

5.7.1. The recumbent cycle is a bike with three wheels of any diameter



between 55 and 70 centimeters (cm) and meets the following:

- 5.7.1.1. The front wheel or wheels shall be steerable.
 - 5.7.1.2. The rear wheel or wheels shall be driven through a system comprised of pedals and a chain.
 - 5.7.2. A recumbent cycle must conform to the general principles of Union Cycliste Internationale (UCI) construction for bicycles.
 - 5.7.3. Modified hub attachments may be used if necessary.
 - 5.7.4. The width of recumbent cycle double wheels may vary between 85cm maximum and 60cm minimum, measured at the center of each tire where the tires touch the ground.
 - 5.7.5. If a recumbent cycle with two rear axles does not have a differential, only one wheel must be driven, due to the different speeds of the wheels in bends.
 - 5.7.6. A recumbent cycle must not measure more than 200cm in length and 95cm in width.
- 5.8. Upright bicycles:
- 5.8.1. Upright bicycles must comply with the spirit and principle of cycling as a sport.
 - 5.8.1.1. The presumption is that cyclists will compete on equal footing.
 - 5.8.1.2. The principle asserts the primacy of man over machine.
 - 5.8.1.3. For morphological or disability reasons, exceptions may be permitted but the principle of the UCI regulations for cycles must be followed.
 - 5.8.1.4. For example: A handlebar adaptation is allowed for athletes with upper limb disabilities if the athlete needs the adaptation to operate gear and brake levers. There is no unfair aerodynamic advantage and safety is not compromised.
 - 5.8.2. Sitting position: The rider shall assume a sitting position on the bicycle. This position requires that the only points of support be feet on the pedals, the hands on the handlebars and the seat on the saddle.
 - 5.8.3. Handlebars: The bicycle should have handlebars, which allow it to be ridden and maneuvered in any circumstance, and in complete safety.
 - 5.8.3.1. Only the traditional type of handlebars may be used.
 - 5.8.3.2. No time trial or "aero" bars are permitted.
 - 5.8.3.3. The brake controls attached to the handlebars shall consist of two supports with levers.
 - 5.8.3.4. It must be possible to operate the brakes by pulling on the levers with the hands on the lever supports.
 - 5.8.3.5. Any extension to or reconfiguration of the supports to enable an



alternative use is prohibited.

5.8.3.6. A combined system of brake and gear controls is authorized.

5.8.4. Chain set: The bicycle shall be solely propelled through a chain set driven by the legs (inferior muscular chain) moving in a circular movement without electric or other assistance.

5.8.5. Maximum bicycle frame measurements shall not measure more than:

5.8.5.1. Max length: 185cm (72.8 inches)

5.8.5.2. Max width: 50cm (19.68 inches)

5.8.6. Wheels: Wheels of the bicycle may:

5.8.6.1. Vary in diameter between 70cm (27.56 inches) maximum and 55cm (21.65 inches) minimum, including the tire.

5.8.6.2. Wheels shall have at least 12 spokes.

5.8.6.3. Spokes can be round, flattened, or oval, as long as, no dimension of their sections exceed 10mm (0.394 inches).

5.9. Upright tandem cycles (applicable to recumbent tandem cycles):

5.9.1. The tandem is a vehicle for two cyclists with:

5.9.1.1. Two wheels of equal diameter, which conforms to the general principles of UCI construction for bicycles.

5.9.1.2. The front wheel shall be steerable by the front rider, known as the pilot.

5.9.1.3. The pilot must also control the shifting and braking for the bike.

5.9.1.4. Both riders shall face forward in the traditional cycling position.

5.9.1.5. The rear wheel shall be driven by both cyclists through a system comprised of pedals and chains.

5.9.2. The tandem top tube and any additional strengthening tubes may slope to suit the morphological sizes of the riders.

5.9.3. Brake system: Tandem bicycles must have an independent brake on each wheel.

5.9.4. Stoker: For the 2016 DoD Warrior Games:

5.9.4.1. The rear rider on the tandem is known as the stoker.

5.9.4.2. The rear rider must be the individual with VI.

5.9.5. Tandem Races:

5.9.5.1. All upright tandems will race and be scored together, regardless of the classification of each tandem team (men, women, or mixed).

6. RACING RULES:



6.1. Inter-Category cooperation: Classification will be by bib color as listed below.

- 6.1.1. Upright cycles
- **Open Green**
 - **C5 Orange**
 - **C4 Magenta**
 - **C3 Blue**
 - **VI Blind Yellow**
 - **VI Open Turquoise**

- 6.1.2. Recumbent cycles
- **Open Green**
 - **T1 Magenta**
 - **T2 Blue**

- 6.1.3. Hand cycles
- **Open Green**
 - **K5 Orange**
 - **H5 Magenta**
 - **H4 Blue**
 - **H3 Red**
 - **H2 Purple**
 - **H1 Gold**

6.1.4. Competitors from different race categories may not work together during the race.

6.1.5. Racers may only work with racers from within their race category.

6.1.6. Although competitors from different categories may end up in the same group, they cannot provide assistance to one another.

6.1.7. The only exception to this is when race categories are combined and athletes from different categories start together, as determined by event staff.

6.1.8. Cutoffs: Competitors who do not meet cutoffs indicated by event staff, may be pulled from the course. Event staff will notify team representative before pulling athletes from course.

6.2. Timing and results:

6.2.1. All races will be scored using an electronic timing system.

6.2.2. Results will be provided for all categories within 1/100th of a second accuracy.

6.3. Penalties:

6.3.1. Rule infractions as determined by the race director are subject to penalties from the Ad Hoc Disciplinary Board and as follows:

6.3.1.1. Individual athlete rule infractions for athletes



6.3.1.2. Full or partial point deductions for the Ultimate Champion competition

6.3.1.3. Full or partial medals

6.4. Course review:

6.4.1. Any concerns with the course must be submitted to the race director NLT 48 hours prior to the race competition event.

6.4.2. The race director is responsible for decision(s) on any courses of action.