



PARACANOE
PROGRAM

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Introduction to Paracanoe

Supporting Knowledge Development



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Introduction

In an effort to expand the sport of canoeing to be inclusive of people with a disability, the International Canoe Federation (ICF) partnered with the International Va'a Federation (IVF) in 2009 to launch the Paracanoe Development Program.

Formerly known as 'paddleability', the new name of paracanoe was officially adopted in December of 2009 in order to align the sport with the Paralympic movement. In 2010 the ICF and IVF further demonstrated their support for paracanoe by incorporating a number of events into their calendar, as well as providing support through the provision of suitable crafts and through the training of classifiers.

At an international level, paracanoe will make its inaugural appearance at the 2016 Rio Paralympics and it is expected that this will lead to an increase in interest in the sport worldwide, as well as additional funding to support it to develop and expand.

At a national level, a concerted effort into paracanoe development commenced less than two years ago, consisting primarily of networking with relevant sporting organisations and identifying those clubs that were interested in incorporating athletes with a disability into their existing structures. The focus was, and continues to be on developing and establishing sustainable structures and pathways for AWD's that support both participation at the grass roots level as well as the development and progression of talented athletes to facilitate the elite performance of athletes at the international level.

About Paracanoe

Sharing many similarities with the sport in general, paracanoe incorporates both the canoe and kayak disciplines, providing people with a physical or intellectual impairment with the opportunity to enjoy the sport at a club, regional and national level and for physical disabilities to international level.

At the grass roots level the craft and paddles may be same, however modifications can be utilised where necessary to enhance each person's ability to participate. At the recreational level, there are options of single craft and doubles craft, however singles craft are currently the only option in international competition.

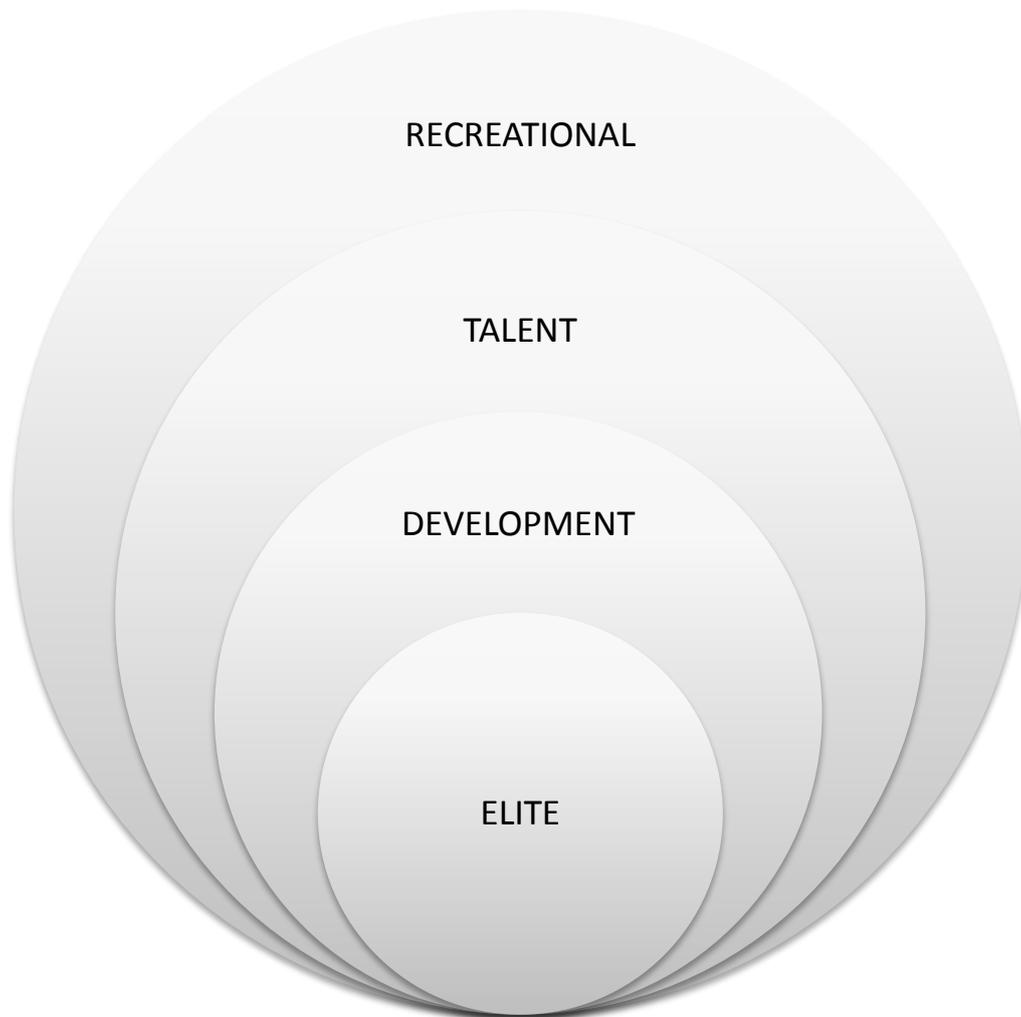
Physical disabilities are encompassed into racing at the International level by the ICF and the IVF, whilst intellectual disabilities have been encompassed within the Special Olympics framework and may be considered in the future by the ICF (as well as the potential inclusion of other disabilities) for inclusion in the ICF Canoe Sprint World Championships.

Paracanoe Pathways

The successful development of sustainable structures and pathways in the sport of paracanoe is largely dependent on the willingness of existing canoe clubs to make provisions to incorporate AWD's into their existing structures and frameworks, followed closely by the willingness of people with a disability to engage in the sport and embrace the opportunities available.

Essentially, our goal is to work with interested canoe clubs to develop and incorporate (*into their existing structures*) a participation and development pathway that caters to a wide range of needs / desires. The approach is very flexible and we encourage clubs to work with us to determine how best to structure this pathway to meet both the needs of the participant as well as those of the club.

The diagram below provides a broad explanation of how we envisage the paracanoe structure will connect across the entire pathway.



The general aims and objectives associated with each level of this pathway are as follows:

Recreational

'Paracanoe Recreational' is aimed at all levels of disability and is designed to provide participants with a positive first experience in the sport. It is a club level, participation orientated program, which can be utilised as an introductory program for those participants who may wish to progress into more structured, skill based sessions.

Clearly, the aim at this level is to engage the local community and provide access to opportunities for involvement at the recreational level. It seeks to expose people with a disability to the sport in a safe and friendly environment, whilst facilitating the development of the most basic of skills.

It is important to remember that not all athletes participating in these programs are classifiable and therefore the Paralympic pathway may not be applicable for some. There is also likely to be some variation in the motives for participation (some athlete driven, some support worker / carer / parent driven), and as a result the focus of these programs has generally been on providing an introduction to the sport of paracanoe and facilitating ongoing participation through positive social experiences. Irrespective of this, there is likely to be athletes who have the desire and commitment to progress further and continue learning, and therefore it is imperative that further structures are developed and implemented in order to support this progression.

Talent

'Paracanoe Talent' is focused on developing athletes and supporting them to be able to compete at a club and state level.

The technical and tactical skills developed at the talent level include:

- Water safety (capsize drills)
- Technique
- Boat handling skills
- Basic race skills
- Rules and code of ethics for the sport



The physiological development of the talent level should include:

- General movement, balance and co-ordination development
- Core stability and core strength
- General strength
- General aerobic capacity
- Speed
- Flexibility

Considerations for the talent stage of development include:

- Adaptations and prosthesis
- Athlete's goals
- Individual training volume depending upon age, sporting history and disability
- Classification (by a remote system) should occur to ensure fair racing in the correct class

Competitions:

- At the talent level, athletes should be encouraged to enter club races and State Championships.

Development

'Paracanoe Development' is focused on developing and supporting athletes to compete successfully at a state and national level.

The technical, tactical and mental skills developed at the development stage include:

- Continue to develop aerobic capacity
- Technique efficiency at varying stroke rates and speeds
- Introduction of speed and speed endurance training sessions
- Refine race plans and tactics
- Goal setting for main competitions
- Continue to develop boat handling skills
- Understand Australian Canoeing rules and regulations
- Psychological skills training for racing

The physiological skills developed include:

- General aerobic capacity
- Speed
- Speed Endurance
- Core stability
- Strength
- Flexibility
- Initiate role of recovery on the effects of training and racing ability

Considerations for the development level include:

- Refine adaptations and prosthesis
- Individual goals
- Training volume and intensity depending upon disability and social circumstances (work or study)
- National level classification by a classification panel prior to national competition

Competitions:

- Club events
- State Championships
- National level events (including Grand Prix events and National Championships)

Elite

'Paracanoe Elite' is focused on developing athletes to compete successfully on an international level, focusing primarily on the World Cup, World Championships and the Paralympic Games.

The technical, tactical and mental skills developed at the elite level include:

- Optimum technique for the individual
- Race tactics and race plans for all racing conditions
- Race tactics and race plans for International level racing
- Goal setting for competition outcomes
- Refine boat handling skills
- Understand International Canoe Federation Rules and Regulations
- Psychological periodisation skills training

The physiological skills developed at the elite level include:

- Endurance base
- Speed endurance
- Speed and maximum speed
- Acceleration
- Core stability
- Strength
- Power
- Optimal recovery

Considerations for the elite level include:

- Biomechanical input to adaptations and prosthesis
- Use of sports science and sports medicine for optimal training periodisation and recovery monitoring
- Individual goals
- Specific training volume and intensity depending upon disability and social circumstances (work or study)
- Classification by an International Panel



Competitions:

- Club events
- State Championships
- National level events including Grand Prix events and National Championships
- International competitions including World Cups, World Championships and Paralympic Games

Involvement in the above-mentioned pathway, with the exception being 'Paracanoe Recreational', essentially requires participants to display a certain level of skill and commitment, an ability to understand and learn the skills and strategies of the sport and a willingness to implement them. The entire environment has a performance focus, with the primary emphasis being on the attitude and performance of the athlete.

Those athletes selected to participate in the 'Talent, Development and Elite' programs will ideally have a desire to compete in paracanoe at the highest level and, as a general rule, display some of the characteristics required to be successful at higher levels of competition.



Classification

The purpose of the classification system is to minimize the impact eligible impairment types have on the outcome of competition. The ICF system of classification aims to place athletes into classes according to how much their impairment impacts on the core determinants of success in canoeing.

Similar levels of functional ability are classed together to provide as fair as possible competition. The classes include a broad range of disabilities and as a result there may be some paddlers who are at the higher level of function who may be at less of a disadvantage in their class.

The ICF recognises three (3) classes for paracanoe, LTA, TA and A, while the IVF recognises six (6). Refinements are being worked on to bring the IVF and the ICF systems into alignment with IPC standards, however the following is a blend of the two (2) classification systems.

LEG, TRUNK and ARMS (LTA) – (IVF 5 & 6 Point Paddler)

The LTA class is for paddlers with a disability who have functional use of their legs, trunk and arms for paddling, and who can apply force to the foot board or the seat to propel the boat.

Eligible LTA paddlers may typically have a minimum disability equivalent to one of the following:

- Amputee
- Neurological impairment equivalent to incomplete lesion at S1
- Cerebral Palsy Class 8 (CPISRA)

LTA paddlers must meet minimum disability requirements, which is as follows:

The minimum physical disability is a full loss of three fingers on one hand, or at least a tarsal metatarsal amputation of the foot, or the permanent loss of at least ten points on one limb or fifteen points across two limbs when assessed using the Functional Classification Test as set out in the Classification Application Form for Physical Disabilities and the ICF Classifiers Instructors Manual.



TRUNK and ARMS (TA) – (IVF 4 Point Paddler)

The TA class is for paddlers who have functional use of the trunk and arms. They are unable to apply continuous and controlled force to the footboard or seat to propel the boat due to significantly weakened function of the lower limbs.

Eligible TA paddlers may typically have a minimum disability equivalent to at least one of the following:

- Bilateral around knee amputation, or significantly impaired quadriceps
- Neurological impairment equivalent to a complete lesion at L3 level, or an incomplete lesion at L1
- Combination of the above such as one leg with around knee amputation and one leg with significant quadriceps impairment
- Classification by the international sports federation for paddlers with cerebral palsy (CPISRA) as eligible to be in CP Class 5



ARMS ONLY (A) – (IVF 1 – 3 Point Paddler)

The A class is for paddlers who have no trunk function (i.e. shoulder function only). An A class paddler is able to apply force predominantly using the arms and/or shoulders. These athletes will likely also have poor sitting balance.

Eligible paddlers may typically have a minimum disability equivalent to at least one of the following:

- Cerebral Palsy Class 4 (CP-ISRA); or
- Neurological Impairment with a complete lesion at T12 level, or an incomplete lesion at T10

Whilst it is not essential to have an in-depth understanding of the classification process or classes involved in para-canoe, it is beneficial to have a grasp of the common characteristics and / or traits associated with each class. This will enable the provision of more accurate information (albeit initial) for potential participants and their families, and ideally avoid misleading athletes as to their eligibility.



Classification – Process

Currently, all classification for paracanoe is undertaken on an 'as required' basis via a remote system (for a provisional classification) and until assessed in person, which it is envisaged will occur at the National Championships. This process is subject to change as paracanoe develops and participant numbers increase.

The exact details of how the classification process will integrate into the various paracanoe structures' will be determined through consultation between relevant APC staff, Australian Canoeing, key contacts in each state / territory and other relevant stakeholders.

In reference to the remote classification process, documentation and video are required for viewing by the medical and technical classifiers. There are 7 sections required in total, with the written sections including:

- Athlete's details (Name, age, address etc)
- Therapist's details (contact details for the doctor or therapist that completes the form)
- General medical information
- Balance (applicable to paraplegia / tetraplegia or any other wheelchair user)

The following sections require both written and video information:

- Muscle testing (applicable to paraplegia / tetraplegia or any conditions where grading of muscle power is applicable)
- Range of movement (for those whose primary disability is one of loss of range such as arthrogyrposis, or in the case of a mixed disability, a fused ankle with an upper limb amputation)
- Video requirement (for all athletes – demonstrates motor control and specific instructions related to paracanoe)

The video requirements are outlined below:

General Movement Description	View(s) Required	Movement Specifics <i>(amount of footage, speed of movement, locations, etc)</i>
Sitting Activities		
Touch each fingertip with thumb (start at the index and move to 5th digit and back again)	Front	<ul style="list-style-type: none"> • Two complete cycles each hand (slow). • Two complete cycles each hand (fast).
Flick fingers one finger at a time	Front	<ul style="list-style-type: none"> • Once for each finger on each hand.
Rub hands together as if cold	Front	<ul style="list-style-type: none"> • 5 at self-selected / comfortable speed. • 5 as fast as possible.
Touch nose from crucifix position	Front only	<ul style="list-style-type: none"> • Assume crucifix position in wheelchair, eyes straight ahead. • Touch nose with one index finger and return to start. • Repeat on the other side.
Full shoulder abduction (from sides to above head)	Front and side	<ul style="list-style-type: none"> • On backless bench / chair if possible; feet on floor, two front view, two side view.
Holding arms and fingers still	Front	<ul style="list-style-type: none"> • Standing or sitting hold arms out at shoulder height, fingers extended. • Hold arms and fingers as still as possible for 10 seconds.
Trunk forward flexion (bending)	Side only	<ul style="list-style-type: none"> • On backless bench / chair if possible (otherwise sitting forward off backrest). • Hands on shoulders, bending forward to put chest on knees and then returning to sitting position.
Trunk lateral flexion (sideways bending)	Front	<ul style="list-style-type: none"> • On a backless bench / chair if possible (otherwise sitting forward off backrest). • Hands on shoulders, bend left, return to centre, then repeat to right.

Alternating elbow flexion/extension (bending and straightening)	Front and side	<ul style="list-style-type: none"> • Left arm supinated (palms to ceiling) and on left knee, right arm supinated and fully flexed (to right shoulder). • Flex (bend) left elbow as right is extended (straightened), then flex right and extend left (they are now back in the start position). • Video 5 slow and 5 fast.
Going up and down on heels in sitting	Front	<ul style="list-style-type: none"> • Rock feet back on heels and then go up on toes. • Repeat 5 times.
Alternate feet and ankle movements backwards and forwards	Front and side	<ul style="list-style-type: none"> • Sitting, straighten legs slightly in front of you. • While keeping your heels on the ground, point your left foot towards the ground (toes away from you) while bending your right foot (toes towards you). The movement is like paddling your feet. • Video 5 slow cycles and 5 fast.
Paddle action without blade while sitting on a chair - have legs on the floor	Front and side	<ul style="list-style-type: none"> • On backless bench / chair if possible (otherwise sitting forward off backrest). • Paddle as you would if on the water pretending you have a paddle in your hands. • Do 20 repetitions.
Paddle action with blade while sitting on a chair - have legs on the floor	Front and side	<ul style="list-style-type: none"> • On backless bench / chair if possible (otherwise sitting forward off backrest). • Paddle as you would if on the water. • Do 20 repetitions.
Paddle action with blade while sitting on floor	Front and side	<ul style="list-style-type: none"> • On floor with legs in front of you as if you were on the water. For comfort you may sit on a cushion.
Standing Activities		
Sit to stand	Front and side	<ul style="list-style-type: none"> • Athlete required to stand in front of standard chair, feet shoulder width apart, sit down until buttocks just

		touch the surface of the seat and then stand up again (do not sit down fully on the chair - body weight should be borne by legs at all times)
Walking	Front and back	<ul style="list-style-type: none"> • 10m away, 10m towards. • Normal walking speed followed by self-selected speed.
Walk on toes/walk on heels	Front and side	<ul style="list-style-type: none"> • Walk on toes for 5m. • Walk on heels for 5m.
Stand on one leg	Front and side	<ul style="list-style-type: none"> • 15 seconds max, twice each leg.
Jog (including stop and turn around)	Front and back	<ul style="list-style-type: none"> • Doing easy run at self-selected speed.
Video of craft/equipment currently used		
Craft and adaptive equipment record	Over craft, both sides, front and back	<ul style="list-style-type: none"> • A video of equipment and all adaptations of the kayak / craft being used by the paddler - the paddler is not required in the view initially. • Video the paddler with the adaptive equipment as they would use it for paddling.
Water Activities		
Carrying craft to water and getting into craft	Front and back	<ul style="list-style-type: none"> • At own pace in usual location in manner which is comfortable for the athlete (i.e with / without assistance as is routine for the athlete).
Paddle 100m directly away from and to dock	Front and back	<ul style="list-style-type: none"> • Intensity should vary over from 50% effort to 100% effort.
Paddle 200m away from and to the dock	From both sides	<ul style="list-style-type: none"> • Intensity should vary over from 50% effort to 100% effort.
Racing start	From both sides	<ul style="list-style-type: none"> • Paddler performs a racing start from a stationary position.

Equipment

A wide variety of materials and equipment can be used to support participation in paracanoe. Given that the sport is still in the very early stages of development, most equipment is still considered fairly basic, and often developed on a needs / requirements basis. Some examples of material that is used includes:

- High density foam (back and trunk support).
- Elastics (toe steering).
- Molded plastic (seating).
- Plumbers poly piping, duct tape and basic building supplies from any hardware store have all been used to adapt a boat set-up for the comfort of the individual athlete.

The type of equipment required by the participants should be determined by the level at which they are participating and / or competing. As athletes begin to progress through the pathway, it is important to ensure that the equipment they are using supports their ability to develop and progress their skills and abilities.



At an international level the standards associated with various equipment is as follows:

Boat Standards

K1 (Kayak)	
Maximum Length	520cm
Minimum Width	50cm*
Minimum Weight	12kg

K2 (Kayak)	
Maximum Length	650cm
Minimum Width	47cm*
Minimum Weight	18kg

* Measured 10cm from the bottom of the hull

V1 (Va'a or Canoe)	
Length	730cm
Minimum Weight	13kg

V2 (Va'a or Canoe)	
Length	850cm
Minimum Weight	18 kg

Va'a notes (V1 / V2)

The va'a (canoe) shall be a single hull va'a rigged with a single ama (outrigger pontoon) and double 'iako (spreaders), separated by at least one (1) seat. Additional specifications are as follows:

1. The hull, ama and 'iako must meet the specifications set forth above.
2. When the event host is not providing a set of identical V1 or V2 for the event the hull, ama and 'iako must meet the specifications set forth above.
3. Para Va'a (canoe) equipment such as a support seat must be removable. The paddler may supply his / her own equipment as approved by the IVF Para Va'a Committee Chair.
4. Either sit in or sit on top va'a (canoe) may be used (however the sit in va'a is recommended).
5. The ama will be attached on the left side, but must be able to be attached on the right side to accommodate paddler needs as approved by the IVF Para Va'a Committee Chair.
6. Rudders are not permitted.
7. Modifications are permitted for stability if the boat is made slower (ie, stabilising pontoons).
8. Adaptation equipment is not regulated, however it is included as part of the weight of the boat if it is securely attached.

Essentially, at the grass roots (recreational) level there is no limitation as to the boat adaptations that can be made. It is basically a matter of understanding each person's limitations and then taking steps to empower participants and be as inclusive as possible.

At the competitive level, the continued development of paracanoe boats and the associated modifications designed to improve the

comfort of the athlete and support the performance of the participants is currently being addressed.

Events

It is anticipated that future international competitions, including the 2016 Rio Paralympic Games, will include the following paracanoe events:

- **Men – K1:**
 - LTA, TA and A (3 events)
- **Men – V1:**
 - LTA, TA and A (3 events)
- **Women – K1:**
 - LTA, TA and A (3 events)
- **Women – V1:**
 - LTA, TA and A (3 events)

As each event is open to three (3) classes, that means there is potentially 12 races available at an international level. As the sport grows, there is certainly the opportunity for more events to be considered for inclusion, with options including doubles and mixed doubles events, additional distances and additional classifications.

At a national level we should not be exclusive to these events only, but where possible open canoe and kayak competition opportunities to all levels of ability including intellectual disability and vision impairment. Australian Canoeing (AC) will endorse the inclusion of additional events for AWD's during competitions if there is sufficient demand for the event and scheduling allows time for the inclusion.

Please note: in regards to national selection, only international distance races will be included in the selection process.

Basic Coaching Support

Recreation

- Focus on fun, fitness and skill acquisition.
- Water safety.
- Basic boat handling skills.
- Game sense.
- 1-2 sessions per week.

Talent

- Water safety (capsize drills).
- Boat handling skills.
- Technique development.
- Basic race skills.
- Rules and code of ethics for sport.
- 2-4 sessions per week.
- Engagement with other sporting activities for general fitness.

Development

- Continue to develop boat handling skills.
- Continue to develop aerobic capacity.
- Technique efficiency at varying stroke rates and speeds.
- Introduction of speed and speed endurance training sessions.
- Refine race plans and tactics.
- Goal setting for main competitions.
- Psychological skills training for racing.
- Understand Australian Canoeing racing rules and regulations.
- 3-6 sessions per week.
- 1-2 cross training sessions per week.

Elite

- Refine boat handling skills.
- Optimum technique for the individual.
- Race tactics and race plans for all racing conditions.
- Race tactics and race plans for International level racing.
- Goal setting for competition outcomes.
- Psychological periodisation skills training.
- Understand International Canoe Federation rules and regulations.
- 6+ sessions per week.
- 2-3 cross training sessions per week.

Why Include Paracanoe?

Club Perspective

The sport of paracanoe represents an opportunity for your club to:

➤ Increase Membership Base and Revenue:

“ABS data suggests that approximately 20% of all people living within our community have a disability. Athletes with a disability are paying members too”.

➤ Develop Community Partnerships (Boost Profile):

“Disability services, rehabilitation services, schools and persons with a disability are often on the lookout for meaningful opportunities in sports with more than just a ‘pass the time’ focus”.

➤ Access to Elite Competition:

“Pathways exist from the grass roots level right through to Paralympic level (as of Rio 2016!)”.

➤ Improve Club Facilities and Equipment Provision:

“Clubs providing ongoing, high quality programs for persons with a disability have greater access to funding opportunities to assist with club improvements, accessibility and equipment”.



Athlete Perspective

The sport of paracanoe has the capacity to provide many benefits for people with a disability including:

➤ Physical:

- ✓ Rediscovering one's own ability and independence.
- ✓ Physical improvements to heart / lung capacities.
- ✓ Potential to reduce the level of decline in muscle deterioration, or alternatively improve muscle function and movement.
- ✓ Increased use of functional abilities.
- ✓ Opportunity for increased skill development.
- ✓ Opportunity for increased balance development.

➤ Psychosocial:

- ✓ Increased social interaction and friendships with like minded individuals.
- ✓ Feeling of freedom and equality.
- ✓ Its outdoors!

Demystifying Inclusion

INSURANCE

Question:

Our canoe club wants to include people with a disability in our programs and competitions but feel that this will raise our insurance prices. Is this correct? Will we need additional or special coverage to include people with a disability?

Answer:

People with a disability provide no greater risk and therefore exactly the same duty of care as able bodied athletes applies. You should also have exactly the same risk management procedures in place.

Coaches, officials, clubs and associations are under a duty of care to take reasonable care of the people under their supervision, however this duty of care is no higher for people with a disability.

Part of this duty is to do all that is reasonable to avoid the participants being injured, including giving appropriate advice and guidance and ensuring competition are conducted in accordance with the rules of the sport.

SUPPORT and ASSISTANCE

Coaches and officials (paid or volunteer) will be expected to provide the same level of support to people with a disability that they would to any other person.

As is the case with all sports programs, it is assumed that the level of support will depend largely on the nature of the program (and therefore the ability / skill level of the participants). The level of support deemed suitable for a beginner's program will likely differ to that experienced in a development program, which in turn will differ to that experienced in an elite / high performance program.

This has nothing to do with a persons' disability, rather it is dependent on the canoeing / paracanoeing ability of the participants.

Please note: where assistance is required for such things as personal care, transport and behavioural support, this will at all times remain the responsibility of the participant / guardian / spouse to organise.

The canoe club is responsible for providing sports specific guidance, advice and coaching in the area of canoe / paracanoe only.

Further Information

A range of resources are available from other organisations and websites including:

- Australian Sports Commission – www.ausport.gov.au
- Australian Canoeing – www.canoe.org.au
- International Canoe Federation – www.canoeicf.com
- International Va'a Federation – www.ivfiv.org

In addition to this, provisional racing rules are available on the ICF website:

<http://www.canoeicf.com/icf/Aboutoursport/Paracanoe.html>