

Overview of NTIS Cycling Program

The NTIS Cycling program is a Category 3 Camps based Squad Program. There is provision for 6 tier 2 athletes from the cycling disciplines of Track, Road, BMX and MTB. The NTIS program has aims and goals associated with preparing athletes for representation in National U 19 teams in MTB, Track, Road and the National Junior Elite BMX team.

A tier 2 athlete in a Category 3 program receives the most basic level of NTIS servicing. It should be noted that although there are 6 available positions, they do not all have to be filled. Only suitable applicants will be accepted.

The NTIS Program is underpinned by Cycling NT's Junior Athlete Development Program. The Junior Athlete Development Program prepares the athletes for, and takes them to interstate competitions. The purpose, aims and goals of the Junior Athlete Development Program are based on the following;

NT athletes in any cycling discipline cannot access the level of competition in the NT that is required to reach National team representation at Junior Elite level in BMX or U 19 level in the other cycling disciplines. Therefore, any 17 - 19 year old NT cyclist, be it, BMX, MTB, Track or Road, that has aspirations of reaching this level needs to be prepared to live interstate for extended periods of time, (i.e. 3 - 12 months). Further to this, they must have the skills to live independently away from home and the ability to manage school or work as well as their training and racing commitments.

The main aim of the Junior Athlete Development Program is to develop the athlete's confidence and competency in living away from home independently as well as laying the foundations for athletic development in cycling.

The main aim of the NTIS Squad program is to provide basic servicing to selected athletes from Cycling NT's Junior Athlete Development Program to assist them develop as elite athletes. At the moment this basic servicing includes; Physical competency development, and education in sports nutrition, athlete reporting and management tools and recovery strategies.

NTIS Cycling Program and Long Term Athlete Development (LTAD)

LTAD Origins

- Eastern Bloc Countries used a system of LTAD.
- Balyi, and Hamilton wrote research papers on the success of the LTAD system.
- Tudu Bompa is a research specialist in Power and Strength Training in Sport.
- 3 Australians from QAS, Kelvin Giles, Lachlan Penfold and Anthony Giorgi used this information to compile a book called **'A Guide to Developing Physical Qualities in Young Athletes'**. This is an Australian system of LTAD that is based on the developing physical competencies in athletes as the foundation for progression to elite level sport. NTIS use this system to develop their athletes.

Do the other SIS/SAS facilities in Australia use it? No, not in its entire form.

Why then does the NTIS use LTAD?

The NT has a very small talent pool and the NTIS can not afford to injure 1 athlete.

Late Specialisation Model of LTAD – 6 Stages

1. FUNDamentals
2. Learn To Train
3. Train To Train
4. Train To Compete
5. Train To Win
6. Retirement and Retainment

1 – FUNdamentals

This phase is appropriate for boys aged 6 to 9 and girls aged 5 to 8. The main objective should be the overall development of the athlete's physical capacities and fundamental movement skills. The key points of this phase are:

- Participation in as many sports as possible
- Speed, power and endurance are developed using FUN games
- Appropriate and correct running, jumping and throwing techniques are taught using the ABC's of athletics
- Introduction to the simple rules and ethics of sports
- Strength training with exercises which use the child's own body weight; medicine ball and Swiss ball exercises
- Training programs, based on the school year, are structured and monitored but not periodised
- Develop the athlete's:
 - ABC's (Agility, Balance, Coordination and Speed)
 - RJT (Running, Jumping, Throwing)
 - KGBs (Kinesthetics, Gliding, Buoyancy, Striking with a body part)
 - CKs (Catching, Kicking, Striking with an implement)

The first 'critical period of speed development' will occur during this phase, age 6-8 for girls and 7-9 for boys respectively. Linear, lateral and multi-directional speed should be developed and the duration of the repetitions should be less than 5 seconds. Fun and games should be used for speed training and the volume of training should be lower.

2 - Learning to train

This phase is appropriate for boys aged 9 to 12 and girls aged 8 to 11. The main objective should be to learn all fundamental sports skills. The key points of this phase are:

- Further develop fundamental movement skills
- Learn general overall sports skills
- Continue to develop strength with medicine ball, Swiss ball and own body-weight exercises as well as hopping-bounding exercises
- Continue to develop endurance with games and relays
- Introduce basic flexibility exercises
- Continue to develop speed with specific activities during the warm-up, such as agility, quickness and change of direction
- Develop knowledge of warm up, cool down, stretching, hydration, nutrition, recovery, relaxation and focusing
- Training programs are structured and based on a single periodisation
- Competition is structured and a 70:30 training/practice to competition-ratio is recommended

3 - Training to train

This phase is appropriate for boys aged 12 to 16 and girls aged 11 to 15. The main objective should be the overall development of the athlete's physical capacities (focus on aerobic conditioning) and fundamental movement skills. The key points of this phase are:

- Further develop speed and sport-specific skills
- Develop the aerobic base - after the onset of PHV

- Learn correct weight lifting techniques
- Develop knowledge of how and when to stretch, how to optimise nutrition and hydration, mental preparation, how and when to taper and peak
- Establish pre-competition, competition and post competition routines
- The strength training window for boys begins 12 to 18 months after PHV
- There are two windows of opportunity to strength training for girls
 - Window one is immediately after PHV
 - Window two begins with the onset of menarche (the first [menstrual period](#))
- Special emphasis is also required for flexibility training due to the sudden growth of bones, tendons, ligaments and muscles
- A 60% training to 40% competition ratio (includes competition and competition-specific training) is recommended

4 - Training to compete

This phase is appropriate for boys aged 16 to 18 and girls aged 15 to 17. The main objective should be to optimise fitness preparation, sport/event specific skills and performance. The key points of this phase are:

- 50% of available time is devoted to the development of technical and tactical skills and fitness improvements
- 50% of available time is devoted to competition and competition-specific training
- Learn to perform these sport specific skills under a variety of competitive conditions during training
- Special emphasis is placed on optimum preparation by modeling training and competition

- Fitness programs, recovery programs, psychological preparation and technical development are now individually tailored to the athlete's needs
- Double and multiple periodisation is the optimal framework of preparation

5 - Training to win

This phase is appropriate for boys aged 18+ and girls aged 17+. The main objective should be to maximize fitness preparation and sport/event specific skills as well as performance. The key points of this phase are:

- All of the athlete's physical, technical, tactical, mental, personal and lifestyle capacities are now fully established and the focus of training has shifted to the maximization of performance
- Athletes train to peak for major competitions
- Training is characterized by high intensity and relatively high volume with appropriate breaks to prevent over training
- Training to competition ratio in this phase is 25:75, with the competition percentage including competition-specific training activities

6 - Retirement & retainment

The main objective should be to retain athletes for coaching, officiating, sport administration etc.

NTIS Selection - Agreement Document extract.

All applicants will also be considered according to their:

- Athletic ability
- Potential, ability, attitude and desire to become a national class athlete and play for Australia
- Potential to be socially compatible and display an outstanding sense of “team ethic” within a group.
- Very high level of receptiveness to coaching.
- Demonstration of overwhelming desire and commitment to working hard at improving mental and physical skills.
- Desire to succeed in Cycling, educational, vocational and personal life.

Targeted selection events (From the 1 August to 31 July annually)

As outlined above, all applicants’ potential to meet the selection criteria is assessed by the NTIS Head coach in consultation with Club, Assistant coach and through evaluation of performances in:

- Club competitions
- Development squad training sessions and camps
- NTIS camps and training sessions
- Interstate competition