

2019 Canada Winter Games Team NT Female Hockey Selection Camp August 16-19, 2018

Strength and Conditioning Recommendations

As discussed in the *Call For Players* letter, it is critical for players to get their bodies in top physical condition prior to the selection camp in August. Players will build on their base fitness as they prepare for the Games in February so that they physically peak at the CWG competition. The competition at the Games will be too strong for our players to be out of shape.

Players will complete the following fitness tests during the selection camp:

- Multi-stage fitness test (beep test)
- Push-ups (maximum in 60 seconds)
- Sit-ups (maximum in 60 seconds)

These tests are a very basic way to measure a player's level of conditioning. We suggest you work on your overall strength and endurance, as well as practice these tests so that you are not as nervous when completing them during camp. The more you practice on your own the more familiar you will be with the tests and the easier they will be to complete during camp. We have included the instructions on how to complete these tests so that you can set them up and do them on your own over the summer.

In addition to practicing these tests, we also want you to focus on your overall strength and conditioning. This means getting stronger and fitter. It is our philosophy as a coaching staff that there will be some areas in which Team NT may have more challenges when competing against other teams at Canada Winter Games. Fitness is NOT one of these areas. **We believe that there is NO REASON why our team cannot be as fit or more fit than every other team at the Games.** This is our goal. This means we will be looking for players who are in shape and who will have no trouble competing hard for 60 minutes each and every game. Our players will also need to be very strong to compete physically in one-on-one battles at the Games.

The following are the areas players should focus on throughout summer training:

- Endurance and foot speed
- Upper body strength
- Core strength
- Lower body power
- Footwork and agility
- Flexibility

The following are suggestions to improve in these areas. For the strength exercises you do not need access to a gym facility – these are exercises you can do at home with little or no equipment, using your own body weight.

Endurance and foot speed

Having solid endurance will allow you to compete every shift for every period for every game, and will allow you to recover from each game more easily. Foot speed off the ice (how fast you can run) is important because it is directly correlated to your foot speed on the ice.

To develop both your endurance and your foot speed, we recommend following a training program similar to those for 400 m race runners. These runners train for both endurance and sprinting, and their training often involves foot speed work. There are many different 400 m training programs available online, or talk to your high school track coach(es) for their suggestions. Find a training program that works for you and that will build both your speed and endurance, and stick with it.

Upper body strength

Powerful strength in your shoulders, upper arms, forearms, and wrists will improve your shot, allow you to be stronger on the puck, and improve your ability to win one-on-one battles on the ice. There are many effective exercises that use just your own body weight, including:

- Push-ups (it is important to practice full regular push-ups, not modified push-ups)
- Pull-ups (these are an excellent way to improve shoulder and upper arm strength and should be practiced regularly – use the monkey bars at a school playground if you don't have access to a pull-up bar)
- Arm weight-lifting exercises, using free weights or other heavy objects.

Core strength

Core strength is very important for hockey players for all aspects of the game. The following is a sample of effective exercises that use just your own body weight:

- Push-ups (full regular, NOT modified)
- Sit-ups
- Leg lifts
- Plank

Lower body power

Leg strength determines speed and balance, and affects all aspects of the game. Effective body weight exercises to develop lower body power include squats and lunges, leg raises, and box jumps.

Footwork and agility

Quick feet off the ice translates into quick feet on the ice. You can help develop quick feet by practicing ladder drills and doing jump rope exercises.

Flexibility

Stretching is a critical part of training. It is very important to stretch before and after every workout to prevent injury and to help your muscles grow. Yoga can be great exercise for flexibility and strength training.

Fitness Test Instructions

Push-ups (maximum in 60 seconds)

Complete as many full push-ups as you can in 60 seconds.

- A full push-up means your hands are placed flat on the floor with your palms directly beneath your shoulders. You must descend until your elbows are bent 90 degrees; a good way to practice is to touch your nose to the floor on each push-up.
- Your elbows should remain at your side and bow out. A good way to practice is to ensure your elbows are touching the side of your torso as you go up and down.

Sit-ups (maximum in 60 seconds)

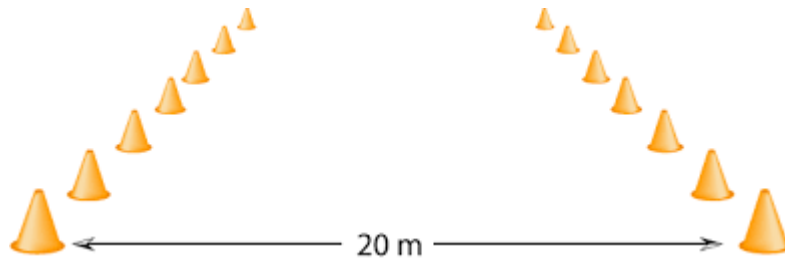
Complete as many full sit-ups as you can in 60 seconds.

- DO NOT have someone stand or sit on your toes.
- Your feet must be flat on the floor and stay flat on the floor using your own strength.
- Your palms also must stay flat on the floor, sliding with you as you sit up.
- Start with laying on your back flat on the floor with your knees bent and your feet and palms flat on the floor. Sit-up completely until your chest touches your knees, then lay back down until the back of your head touches the floor, with your palms sliding flat on the floor through the whole exercise.

Multi-stage fitness test (beep test)

(alternate names: Multistage Fitness Test, MSFT, 20m Shuttle, Bleep Test)

The multi-stage fitness test is a commonly used maximal running aerobic fitness test. It is also known as the 20-metre shuttle run test, beep test, or bleep test, among others.



This test involves continuous running between two lines 20m apart in time to recorded beeps. For this reason the test is also often called the 'beep' or 'bleep' test. The test subjects stand behind one of the lines facing the second line, and begin running when instructed by the audio recording. The speed at the start is quite slow. The subject continues running between the two lines, turning when signaled by the recorded beeps. After about one minute, a sound indicates an increase in speed, and the beeps will be closer together. This continues each minute (level).

If the line is not reached in time for each beep, the subject must run to the line turn and try to catch up with the pace within 2 more 'beeps'. Also, if the line is reached before the beep sounds, the subject must wait until the beep sounds. The test is stopped if the subject fails to reach the line (within 2 metres) for two consecutive ends.

Scoring: The athlete's score is the level and number of shuttles (20m) reached before they were unable to keep up with the recording.

Do Physical Training

If you really want to significantly improve your beep test score, you need to do some aerobic type training. You cannot avoid it; you will have to do some hard work. This would include some long slow running with some interval training.

Prepare Well

You should be physically ready to perform the test. You should have recovered with at least 24 hours since the last heavy training session, and be free from injury or illness. Make sure you hydrate well beforehand (see pre-exercise hydration), and have a light meal 1-2 hours before the test. You should also feel comfortable, wear loose clothing and have firm-fitting footwear with a good grip. You should also perform a light warm-up before the test.

Be Mentally Tough

The beep test can be a mentally tough test for some, and some good improvements can often be made, without any change in your base fitness, by a more positive state of mind. Pushing through the pain barrier may help you reach a higher level.

Use Good Technique

Using an efficient turning technique you will minimize any excess energy wasted during the turning phase. As you reach the turn, time it so that only one foot just touches over the line, and turn sharply. Do not follow a wide arc, which will be more distance traveled. You should drop your hips slightly as you turn, and push off strongly for the first few strides to get up to pace.

When you get near the end of a level, try to be on time with the beep, and step up your pace straight away. Run efficiently to conserve energy – run with your shoulders relaxed and breathe deeply and smoothly.

Use Pacing Strategies

Also without any change in aerobic fitness, you may be able to improve your score by pacing yourself so that energy is not wasted from end to end. Try and stay relaxed, quickly getting up to the required pace. Running at a consistent pace will be more efficient.