Let's Play Ball: COVID-19 Graduated Return to Play Guidlelines

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The outbreak of Coronavirus disease (COVID-19) resulted in suspension of youth, academic and professional sport in New Zealand, and around the world. Following resumption of domestic and international competition there have been several reports of an increased number of athletes testing positive for COVID-19 after returning to competition (1). In light of these concerns, it is essential that sporting organisations provide 'informative, consistent and specific guidance for safe return to training and competition' (2), delivered in context to the sport. This blog presents an overview of the Basketball New Zealand COVID-19 Graduated Return to Play (GRTP) Guidelines and is written to assist athletes resume safe training ahead of return to competition that promotes health and performance in an easy-to-follow GRTP infographic.

Guidance Scope

In light of recent concerns surrounding the return to play of athletes following COVID-19 disease, this document has been prepared by the Basketball New Zealand Coronavirus (COVID-19) Framework Project Team to provide guidelines for coaches and athletes, taking into consideration the New Zealand Public Health guidelines regarding COVID-19 at the time of publication (3). As public health guidelines will continue to change as greater levels of evidence are published (4-6), these changes need to be considered before advising athletes.

Target audience and applicability of guidelines

The guidelines are ONLY applicable to those who have had mild to moderate illness (or are asymptomatic), and not requiring hospital care. The guidelines are NOT suitable for those who are not being closely supervised by a healthcare practitioner. In such cases, it is recommended that you seek guidance from appropriate physician.

Expert Opinion

The guidance is based on expert opinion of leading medical, academic and high-performance personnel, taking into consideration the current available literature on Graduated Return to Play (GRTP) outlining experiences of athletes who are known to have contracted COVID-19. This has resulted in published guidelines moving closer to a 'symptoms' as opposed to 'time-course' based approach (7-10).

e Progression

As athletes may unintentionally detrain as a result of self-isolation periods following COVID-19 infection due to the illness and/or lack of facilities to maintain their fitness (11, 12) it is recommended that athlete training progressions follow a linear step-type loading principle with incremental increases in training load (13, 14). The GRTP guidelines outline that the athlete can advance to the next stage ONLY if there are NO worsening of symptoms at rest, and at the level of physical activity achieved in the previous GRTP stage without a worsening of symptoms. The concepts of training load, progression, and recovery are key considerations for coaches, performance staff and team physicians supporting athletes (15), and have been previously addressed (13).

50/30/20/10 Rule

The "50/30/20/10" rule serves as a useful approach to individual and team load progression, as outlined in the Joint Consensus Paper by the National Strength and Conditioning Association (NSCA) and Collegiate Strength and Conditioning Coaches Association (CSCCa) (16). With the reintegration of players into the training environment, it is recommended to reduce the overall training volume by 50% of the uppermost planned volume initially. This is followed by a 30% reduction in uppermost planned volume, then 20%, and 10%. Such an approach to progressive overload may assist with the successful reintegration into the training environment. Follow this link for more detail of the 50/30/20/10 rule (13).

Recovery Strategies

Recovery is defined as a 'multifaceted (e.g., physiological and psychological) restorative process relative to time' (17). From a basketball-specific perspective, recovery should target the physiological and psychological stress associated with the return to training and competition (18). Common recovery strategies include sleep, cold water immersion, massage, compression, nutrition and hydration interventions (19-21). It is also important that psychological and emotional wellness is not be overlooked during this process (22). As there is no 'one-size-fits-all' approach to recovery (20), it is important to educate athletes about the importance of individualised, self-initiated, proactive recovery strategies (19-21).

Protocol Commencement

This GRTP protocol should only commence when the athlete is:

- 1. Free from all but the mildest 'above neck' symptoms (e.g., mild headache, loss of taste or smell); and
- 2. Off treatments that may mask symptoms (e.g., paracetamol).

NOTE: In the case that a symptomatic athlete tests negative for COVID-19 they should continue to consult with their physician during their recovery, as per any viral illnesses.

Red Flag Indicators

If any of the 'red flags' indicators outlined in Table 1 or other concerning symptoms occur, a medical practitioner should be consulted immediately, and as a minimum the athlete should rest and reattempt the previous stage after at least 24 hour without symptoms. It is recommended that a medical practitioner be consulted at any stage if there are concerning symptoms or indications (i.e., 'red flags').

Table 1. Red Flags Indications

Indicator	Descriptor
Severe or increasing breathlessness	Disproportionate to the amount of effort.
Thromboembolic events	Unusual, sharp, pain or discomfort in chest or abdomen, muscle pain +/-limb swelling.
Exertional light-headedness	Not just when standing up from a sitting position
Syncope	Fainting / passing out
Unusually high heart rate	During exercise or slow HR recovery on cessation of exercise.
Unusually high RPE	For a given exercise intensity (compared with previous known RPE responses.
Psychological	Increased mental health / anxiety-related difficulties
Athlete illness perception	Increased perception of moderate / severe illness symptoms

Adapted from the UK Home Countries Institutes of Sport (10) and Elliott and colleagues (23).

GRTP descriptions and progressions

Table 2 describes GRTP actives and progression of stages for athletes who experience any 'below neck' symptoms. While Table 3 outlines GRTP actives and progression of stages for athletes who are either asymptomatic or have mild above neck symptoms only. These stages are outlined in the accompanying infographic at the bottom of this blog.

Table 2. GRTP descriptions and progressions: 'below neck' symptoms

Stage Descriptor

STAGE

- Involves minimum rest period during 7-days self-isolation (19) in order to optimise the recovery and protect the cardio-respiratory system.
- Household activities and light exercise when feeling well enough.

- If symptoms are improving, and physician approves, progression to stage 2.
- Light aerobic activity. Keep the intensity low (RPE 1-2).

STAGE

- <70% HR max working for 15 minutes only.
- 2
- Monitor how you feel the next day.
- Progression over a minimum of 2 days.

STAGE

• Increase the intensity of the activities working at <80% HR max (RPE 3-4).

- Complete <50% uppermost training load.
- **3**a
- Progression over a minimum of 2 days.
- Progress to more complex training drills at RPE 5-6 for 45 minutes.
- Perform conditioning activities at a heart rate <80% HR max.

STAGE

3b

- Introduce competitive drills <20% of session time.
- Complete <70% uppermost training load.
- Progression over a minimum of 2 days.
- · Resume team training

STAGE

4

5

- Complete <80% uppermost training load.
- Keep heart rate <80% HR max and train for 60 minutes.
- Competitive and contact work <30% of session time.

STAGE

- Medical physician review to determine return to competition status.
- Back into high intensity and full training leading into competition.
- Manipulate training components as required to meet player needs.
- Continue to monitor Health and Wellness status.

Table 3. GRTP descriptions and progressions: Mild above neck symptoms only

Stage **Descriptor**

- Commence at Stage 2, minimum of 7 days self-isolation period (19).
- Light aerobic activity. Keep the intensity low (RPE 1-2).

STAGE 2

- <70% HR max working for 15 minutes only.
- Monitor how you feel the next day.
- Increase the intensity of the activities working at <80% HR max (RPE 3-4).

STAGE 3a

- Complete <50% uppermost training load.
- Progression over a minimum of 2 days.
- Progress to more complex training drills at RPE 5-6 for 45 minutes.
- Perform conditioning activities at a heart rate <80% HR max.

STAGE 3b

- Introduce competitive drills <20% of session time.
- Complete <70% uppermost training load.
- Progression over a minimum of 2 days.

- · Resume team training
- Complete <80% uppermost training load.

STAGE 4

- Keep heart rate <80% HR max and train for 60 minutes.
- Competitive and contact work <30% of session time.
- Medical physician review to determine return to competition status.
- Back into high intensity and full training leading into competition.

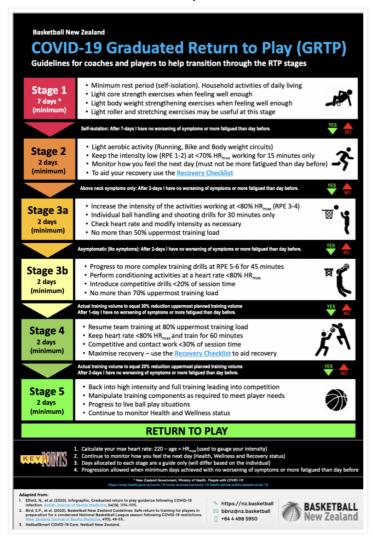
STAGE 5

- Manipulate training components as required to meet player needs.
- Continue to monitor Health and Wellness status.

Key Considerations

- 1. In all cases, if any of the previously detailed 'red flag' symptoms manifest, or if the athlete or anyone else supporting them has any concerns, the medical physician should be consulted immediately, and the GRTP should be ceased.
- 2. Some people take over 3 weeks to recover and return to full training, and some mild symptoms may also persist (e.g., mild breathlessness, fatigue, reduced or altered smell / taste), which may extend the return to training process, according to the clinical scenario and performance requirements.
- 3. As previously detailed the self-isolation period should be followed in accordance with follow directions of the appropriate Health Authorities (i.e., 7 days) (24), so all activities during that period will need to be performed within the athlete's home.

Basketball New Zealand GRTP Infographic for coaches and athletes:



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COMPETING INTERESTS

None for any author.

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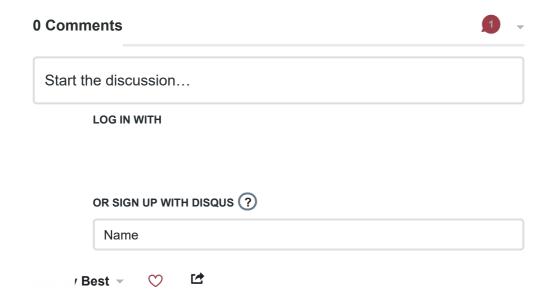
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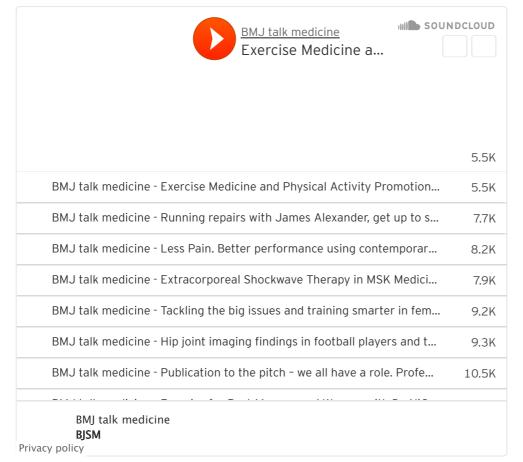








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