CONSEQUENCES OF SELF-ISOLATION ON THE PLAYERS' SPORTS FORM CAUSED BY THE COVID-19 VIRUS PANDEMIC

CONTENT

INTRODUCTION 3

BIOGRAPHY ALEKSANDAR LUKMAN & MEDICAL TEAM 4

CONSEQUENCES OF SELF-ISOLATION ON THE PLAYERS' SPORTS FORM 5

THREE CHALLENGES BY MEDICAL TEAM OF BC CRVENA ZVEZDA 6

INFOGRAPHIC 7

CONCLUSION 8

INTRODUCTION

In accordance with the emergency measures and state in Republic of Serbia issued by the Government, BC Crvena zvezda has suspended all activities of the senior team from 12.03.2020. Four-five days after that, at their own request, foreign players left country of Serbia and traveled to the United States, while domestic players stayed at their homes in isolation according to recommendations of the authorities and doctors during the COVID-19 virus pandemic.

So far, we are not familiar that any of our players of the first team or a member of their families is positive to Corona virus, despite the fact that in the previous period, first team together with coaching stuff, part of the medical staff and management were in Madrid from 11th to 13 March 2020.

During the state of emergency and pandemic, beside the danger of virus infection which already hit some athletes around the world, a new circumstance has occurred, which is to maintain a minimum form that would allow the players to return to practice in the near future with certain modifications.

However, that period is fraught with challenges for all conditioning coaches, players and everyone in the system of the club.

BIOGRAPHY
ALEKSANDAR LUKMAN
CONDITIONING COACH

Aleksandar Lukman (born April 29, 1967) is a Serbian professional basketball strength and conditioning coach.
He earned his bachelor's degree in physical education from the University of Belgrade in 1991 and earned his doctor's degree from the Faculty of sport and tourism – TIMS in Novi Sad in 2008.
Lukman started his strength and conditioning coaching career in 1995. He was a strength and conditioning coach of Radnički Belgrade, Crvena zvezda and Hemofarm, as well as Russian teams Lokomotiv Kuban, UNICS and Khimki.

Professor and co-founder of Sports Academy of Belgrade.

MEDICAL TEAM OF BC CRVENA ZVEZDA MTS BELGRADE:

DR NEBOJŠA MITROVIĆ

Prim dr sc med Nebojša Mitrović, general surgeon, chief of the surgery department at the Clinical Hospital "Zemun" Belgrade. He is also Head of the Department of Gastrointestinal and Coloproctology Surgery and performs more than 250 operations annually, with special interest in classical and laparoscopic oncological surgery of the digestive system. Since 2011 he is a Clinical Assistant at the Department of Surgery of the Medical Faculty in Belgrade. Part of Club's medical team from season 2011/12.

DR BORIS GLUŠČEVIĆ

MD, PhD. Boris Gluščević, orthopedic surgeon, at Institute for Orthopedic Surgery "Banjica" Belgrade. Head of Department for general orthopaedics. He has published over 40 authorized publications and also 60 publications as a co-author. Member of the Union of orhopedical surgeons of Europe. Part of Club's medical team from season 2011/12.

Milorad Ćirić,
Physiotherapist

Phd. Dr Darko Bajec

Phd. Dr Milan Mirković

CONSEQUENCES OF SELF-ISOLATION ON THE PLAYER'S SPORTS FORM CAUSED BY THE COVID-19 VIRUS PANDEMIC

Players of BC Crvena Zvezda has stopped practicing on 12th March 2020. upon returning from Madrid where the round of EuroLeague was canceled. Fewer players have training conditions in their apartments and homes. The biggest problem is the loss of VO2 max (maximum oxygen consumption) during the self-isolation period because it is necessary to have a treadmill or stationary bike in the apartment in order for such training to be possible.

It is well-known that it takes about two weeks for this ability to begin to drop off. If the break is longer than a month, this ability begins to drop off significantly and may exceed the drop off 20-30%, and a break of 2 months or more, the drop off of this ability may exceed 50%. It takes 2-3 months of training to make up 20-30% of VO2 max deficiency, and up to one year of training is required to make up 50% of VO2 max deficiency. These are average values and some deviations from these numbers are possible depending on an individual player. To compare, when the season ends in the month of June, player is given a 10-14 day passive rest (except for players with special training programs), after which each player receives a program how to maintain VO2 max as well as other motor skills.

Optimal pre-season preparation time, under these conditions, is about 45 days. It can be easily concluded that the total practice time during preparation period is about 3 months. Players in self-isolation can do strength and force training more easily and get props for that type of training. Inactivity of this type can lead to a loss in muscle force of about 20% annually (depending on an individual characteristics of the athlete) and it can be returned to optimal levels easily.

The specific part related for basketball training and games is a special issue that depends on many different factors, so it is difficult to give the exact time when the team is in its optimal form for the competition from the moment the team gathers. Based on the above, in case the teams are allowed to train from April 11th 2020. the minimum period required to achieve a relatively optimal competitive form is 3-4 weeks, which would allow the competition to start approximately on 1st of May.

Extending the break over a month would require more than a month of preparation and practices which would call in question the end of the 2019/20 competitive season. Forcing and shortening preparations upon finishing self-isolation would certainly lead to injuries to a large number of players and endanger their sports careers.

With individual players, the mental and psychological state of a player at the end of a pandemic is a factor that should also be taken into account, since stress as a result of a crisis caused by a Corona virus would certainly call into question the psychological readiness to compete. A 2-month break would require preparations that would allow the season to resume not before September 2020.

Athlete coach of BC Crvena Zvezda
PhD Aleksandar Lukman

THREE CHALLENGES BY MEDICAL TEAM OF BC CRVENA ZVEZDA

There are three challenges that lies ahead of us:

1. Too long break where is uncertain if the players were able to practice and how;
2. Possible shortening and forcing of preparations and practices after a break;
3. The mental and psychological state of the players after this crises.

For whatever reason, if the preparations are not done cautiously, it can significantly affect to player's condition and can lead to an injury. In my opinion, possible injuries that can occur and can be expected can be classified into following groups:

1. Renewal of chronical problems in terms of chronic inflammation, tendinopathies...
2. Injuries resulting from the distortion mechanism
3. Muscle and tendon injuries in terms of stretching and ruptures
4. New inflammatory reactions of the organism
5. Drop of immunity

Anyway, these unusual circumstances we all find ourselves in, should not effect on us who work with the players and point us to go into emergency short-term preparation by skipping steps, but to find a way to implement everything that is necessary, no matter how long it takes in order to avoid side effects.

Medical team of BC Crvena zvezda mts Belgrade:

Prim dr sc med Nebojša Mitrović
MD, PhD. Boris Gluščević
Phd. Dr Milan Mirković
Phd. Dr Darko Bajec
Milorad Ćirić, Physiotherapist

INFOGRAPHIC

VO2 MAX LOSS

TREADMILL OR STATIONARY BIKE

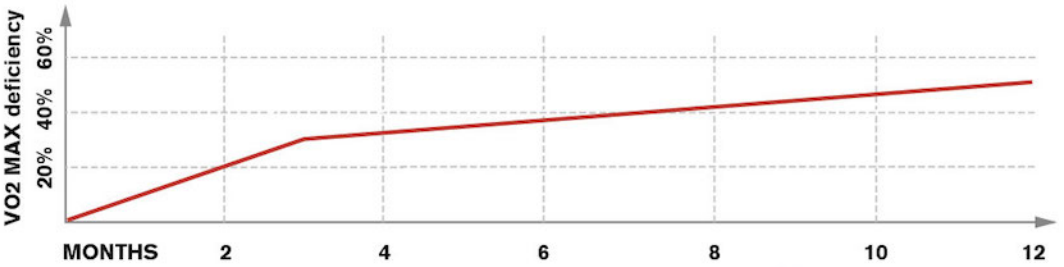
SELF-ISOLATION PERIOD →

1 MONTH → **20-30%**
BREAK DECLINE

2+ MONTHS → **>50%**
BREAK DECLINE

INJURIES

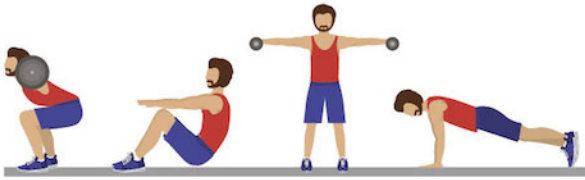
Forcing and shortening preparations upon completion of self-isolation would certainly lead to injuries



JUNE/JULY → **10-14 day passive rest**

45 DAYS → optimal pre-season preparation time

3 MONTHS → total training time in the transition and preparation period



PLAYERS IN SELF-ISOLATION CAN DO STRENGTH AND FORCE TRAINING MORE EASILY AND OBTAIN PROPS FOR THAT TYPE OF TRAINING.

The start of training
11.04.2020. → **3-4 WEEKS** → **01.05.2020.**
The start of competition

Minimum period to achieve a relatively optimal competitive form

CONCLUSION

With the professional/expert work of the Club's medical team and professor Aleksander Lukman, BC Crvena zvezda mts Belgrade wants to contribute to the discussion of the consequences of self-isolation on athletes, and also to present the way how our Club is preparing players for competition and rythm that professional sport require. Everybody wants to take back in the action and return to a regular activities and be able to enjoy the things that loves the most. Despite of our desire to return to the Arenas and basketball court as soon as possible and play basketball at the highest level (like we used to play), we need to take a good look at all aspects of the situation we are facing with and the consequences which we could expect after self-isolation.

Our analysis was created by experienced experts who work in sports more than 10 years and they are willing to contribute in understanding of the situation and consequences that COVID 19 could leave on the highest European basketball level. The situation that unfortunately hit all of us would affect the preparation of basketball players. After the period of isolation they will need a lot of time to bring their bodies back to the top form and prepare themselves for the highest level of game. Proper time period is neccessery if we want to protect players from being constantly exposed to potential injuries and health problems. Beside the desire of all of us to get back to the basketball, we need to be responsible to basketball players and their health in the first place, because they are one of the KEY factors in the basketball world and business.

When the condition have been satisfied to discuss about resume of the competiton, we need to consider seriously the consequences on the physical and mental health of players produced by a very long break and period of isolation without regular condition to keep their form.

At this moment, all of us are focused on the health of all people arround Europe and together we are making a major contribution to prevent the further spread of the COVID 19 pandemic. In this regard, we are informing our fans and followers about precautions and personal protection on a daily base.

Stay at home, take care of yourself and your loved ones and stay safe, until we meet agan on the court, which we all miss a lot.

P.S. See you on the basketball court, which will be hopefully soon.