

The method used to come up with this innovation was first a literature study, where 11 articles were found.

The program should be implemented all season long and two sessions per week should be done, as Petushek et al. (2018) found positive outcomes with those parameters.

The testing part of the intervention was solely taken from the cohort study from Ebert et al. (2021), as this article explains how a good hop test result means that there is less limb asymmetry, which in turn gives an indication for a better ACL injury rehabilitation and prevention (Ebert et al., 2021) (Arundale et al., 2018).

The second part of the intervention was taken from the other ten articles. After the literature search, all of the information in the articles was written down and compared with each other.

Emphasis should for example be paid to jumping and landing exercises and the certain muscle control needed for those movements as they are a common mechanism of injury in ACL injuries (Taylor et al., 2018) (Lephart et al., 2005) (Nyman & Armstrong, 2015) (Voskanian, 2013) (Petushek et al., 2018) (Ahmadabadi et al., 2023).

Furthermore, according to Taylor et al. (2018) and Ahmadabadi et al. (2023) single leg exercises should be included in the prevention as they challenge the side movements a bit more.

Both of those previous statements can be emphasized by (Voskanian, 2013) (Zebis et al., 2015) (Petushek et al., 2018) (Lephart et al., 2005) (Arundale et al., 2018) (Ahmadabadi et al., 2023) which all say that plyometrics should be included in the prevention training to mimic the strain that would be put on the ACL. However, Lephart et al. (2005) also states that general strength training is even more important in the prevention progress.

Regarding specific muscle strengthening, Lephart et al. (2005), Petushek et al. (2018), Arundale et al. (2018) and (Ahmadabadi et al., 2023) all pay extra attention to the quadriceps muscle. According to their research there is a big difference between men and women in quadriceps strength when it comes to prevention programs. Therefore, quadriceps muscle strengthening should be in the focus in/of female programs, as they have a 3.5 higher risk of obtaining an ACL injury (Voskanian, 2013).

In addition to the quadriceps muscle, the hamstring muscles activation should be trained, as it gives a lot of posterior support to the ACL (Zebis et al., 2015) (Voskanian, 2013) (Petushek et al., 2018); (Ahmadabadi et al., 2023).

Furthermore, according to LaBella et al. (2011), Gilchrist et al. (2008) and Zebis et al. (2015) a neuromuscular warm up can be included in the program. With this no significant effects have been seen (La Bella et al., 2011), which is why in this intervention there is only a regular warm up included.

However a very important detail is the observation and feedback given to the patient (Lephart et al., 2005) (Nyman & Armstrong, 2015) (Petushek et al., 2018), within which, extra attention should be paid to the knee flexion angle, as it should be as big as possible during landing phases of jumps and plyometrics (Lephart et al., 2005) (Nyman & Armstrong, 2015). Furthermore the knee separation distance should not vary a lot during jumping and landing and the ground contact during multiple jumps should be kept to a minimal amount (Nyman & Armstrong, 2015).

In the end, Lephart et al. (2005) and Gilchrist et al. (2008) involved flexibility exercises in their program as well. Even though, no special scientific attention was paid to them, they are included here as a cool down.

In the following table the exercises chosen from all of these articles will be cited and a short reason why they were elected.

EXERCISES	REFERENCE	EVIDENCE BASED REASONING
Jog	Gilchrist et al. (2008), Taylor et al. (2018)	General warm up.
Shuttle run	Gilchrist et al. (2008), Taylor et al. (2018)	General warm up.
Squats	Lephart et al. (2005), Petushek et al. (2018), Arundale et al. (2018), Ahmadabadi et al. (2023)	Quadriceps strengthening
Single leg squats	Lephart et al. (2005), Petushek et al. (2018), Arundale et al. (2018), Ahmadabadi et al. (2023), Taylor et al. (2018)	Quadriceps strengthening + single leg movements
Walking lunges	Lephart et al. (2005), Petushek et al. (2018), Arundale et al. (2018), Ahmadabadi et al. (2023), Taylor et al. (2018)	Quadriceps strengthening + single leg movements
Russian hamstring curls	Zebis et al. (2015), Voskanian (2013), Petushek et al. (2018), Ahmadabadi et al. (2023)	Hamstring activation
Single leg calf raises	Lephart et al. (2005), Taylor et al. (2018)	General strength training
Lateral jumps over cone	Voskanian (2013), Zebis et al. (2015), Petushek et al. (2018); Lephart et al. (2005), Arundale et al. (2018), Ahmadabadi et al. (2023), Gilchrist et al. (2008)	Plyometrics, side and single leg movements
Single leg drop jump + hold	Voskanian (2013), Zebis et al. (2015), Petushek et al. (2018); Lephart et al. (2005), Arundale et al. (2018), Ahmadabadi et al. (2023), Gilchrist et al. (2008)	Plyometrics, jumping + landing + single leg movements
Box jump + hold	Voskanian (2013), Zebis et al. (2015), Petushek et al. (2018); Lephart et al. (2005), Arundale et al. (2018), Ahmadabadi et al. (2023)	Plyometrics, jumping + landing movements (can be made to single leg movement if difficulty is increased)
Scissor jumps	Voskanian (2013), Zebis et al. (2015), Petushek et al. (2018); Lephart et al. (2005), Arundale et al. (2018), Ahmadabadi et al. (2023), Gilchrist et al. (2008)	Plyometrics, single leg + jumping + landing movements
Standing calf stretch	Lephart et al. (2005), Gilchrist et al. (2008)	Cool down
Seated quadriceps stretch	Lephart et al. (2005), Gilchrist et al. (2008)	Cool down

Seated hamstring stretch	Lephart et al. (2005), Gilchrist et al. (2008)	Cool down
Butterfly stretch	Lephart et al. (2005), Gilchrist et al. (2008)	Cool down
Hip flexor stretch	Lephart et al. (2005), Gilchrist et al. (2008)	Cool down