

Continuing Adequate Squat Exercise without Load for Selfcare in the Difficult Circumstances Worldwide

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Abstract

Across the world, Coronavirus disease 2019 (COVID-19) has been crucial medical and social problem. People have continued irregular meal and exercise habits. Fundamental factors of exercise prescription are FITT-VP, which stand for frequency, intensity, time, type, volume and progression. Authors continued various physiotherapeutic activities such as treatment, workshop, self-care and so on. Among them, squat exercise with no load would be useful and beneficial method in current situation. In order to perform the correct and smooth movement of squat exercise, to insert the both thumbs into anterior side of the hip joint will be recommended for obtaining clinical efficacy.

Keywords: Coronavirus disease 2019 (COVID-19); FITT-VP; Squat exercise with no load; Intra-Abdominal Pressure (IAP); Quadriceps femoris

Introduction

Across the world, Coronavirus disease 2019 (COVID-19) has been crucial medical and social problem [1]. Many researchers have presented up-to-date results so far [2]. By irregular daily lifestyles, people have been influenced for their meal and exercise, leading to unstable health [3]. Then, adequate controls from physical, mental and social points of view are required. Especially, decreased habits of exercise is problem, and then useful and possible physical fitness will be recommended [4]. Regarding the fundamental factors of exercise prescription, 6 items (FITT-VP) are known including frequency, intensity, time, type, volume and progression (pattern) [5].

The authors and co-researchers have continued medical and sports treatments including rehabilitation, sports advice, workshops and selfcare [6]. Various subjects include general people, sports athletes from elementary school to college, professional football and baseball players, and Masters athletics with all range of ages 15-89 years [7]. The contents include stretching [8], pole exercise [9], biaxial running, flat landing [10], and so on.

We have recently described about the movements of the human body. Originally, human body seems to possess three spheres, which are head, chest and pelvis [11]. The rotation and connection degree of these suggest the crucial relationships of all movement. For smooth movement of mutual three spheres, the fundamental muscle power and balance would be from pelvis and vertebrae. In order to make human body stable, adequate training of squat would be required. Some effective hints and tips are introduced.

As to the direction line of eye sight, looking diagonally on the floor is recommended. When a person is in this posture, the neck tends to be relaxed with the head rotating a little forward. If he opens the chest forward, the shoulder, scapular and back will be with tension, which situation would be avoided. It is better to try pulling up the sternum for the upward. Thus, the chest becomes to rotate a little backward with the relaxed back. Furthermore, to raise the hip upward will be useful for beneficial posture of the pelvis associated with forward rotation [12].

A series of this posture and training will give some adequate muscle tension on abdominal muscles and hamstrings [13]. In addition, this situation brings the pelvis adequate fixation and movement, which can

maintain intra-abdominal pressure (IAP) and hold the pelvis for upright position [14]. Consequently, squat exercise with no loading will contribute improved and relieved body movement [15].

In the human body, four main muscles with large volume are the quadriceps femoris, hamstrings, abdominal muscles, and back muscles. Squats are also an easy and effective way to boost muscle metabolism and strengthen the function of pelvis and legs [16]. In order to perform this training correctly and effectively, there is a recommended method in which the position and movement of the hip joint can be clearly recognized (Figure 1a). By inserting the thumbs of both hands into the position of the hip joint, the present condition of the joint can be grasped. Place the thumbs of both hands on the anterior side of the hip joint. Fold or extend the hip joint while pressing it deeply with your fingertips (Figure 1b). In other words, the movement can be repeated with sitting and standing up (Figure 1c). It is important to perform it slowly accurately. After accustomed to this behavior, try to speed up naturally without force.

In this situation, it is the posture of the upper body that further enhances the effect. Keep the neck straight, with the intention of extending the back of the neck slightly so that the neck does not bend forward [17]. Then, the abdomen does not bend forward and can stretch, so that the abdominal pressure will be increased. The cohesiveness of the entire trunk is important and it becomes a necessary factor for the hip joint to show smooth function. Hamstrings are present behind the thigh. When some tension can be felt here, it seems to be good posture. Furthermore, support weight on the entire sole of the foot and place the center of gravity just under the inner ankle [18]. Do not move the center of gravity where one feels on the soles of the feet even during the movement.

By pushing the fingertip slightly deep into the hip joint, the consciousness can be concentrated on the hip joint. Therefore, the hip joint does not loosen from side to side and bending/stretching can be

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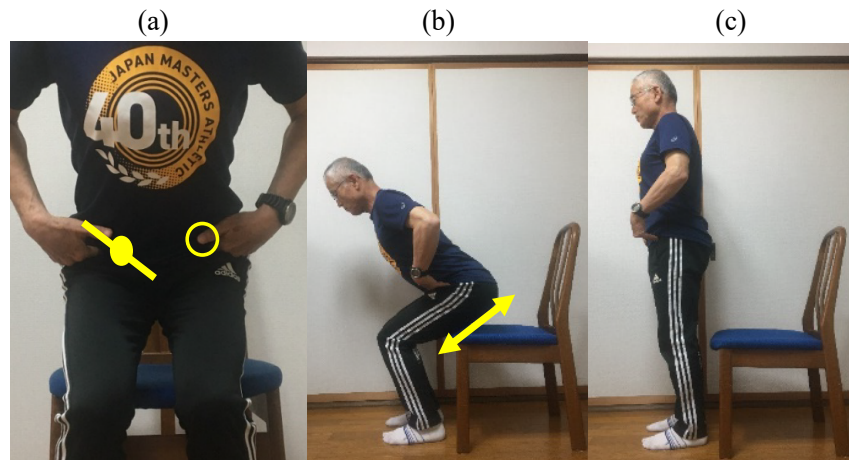


Figure 1: Recommended method for squat exercise with no load.

1a) Insert the thumb on the anterior side of the hip joint. **1b)** feeling the tension at hamstrings indicates correct way. **1c)** becoming upright position by bouncing. power of the pelvis.

continued in the correct way [19]. Until now, squat method that put a heavy load have been rather known. However, daily unloaded squats can provide adequate leg and hip training [20]. By learning the recommended method mentioned above, any person, depending on the situation, can continue squat training 20-200 times as a basic daily exercise therapy.

In summary, it is important to maintain the health by selfcare from bio-psycho-social points of view. Challenging situation has been continued in the world, and then this article will be hopefully useful and beneficial for improving the health.

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