УДК 796.052:796.332.
Shevets V.[1], Pylypenko D.[2]
[1]lecturer, Sumy State University
[2]student, Sumy State University

RETURNING TO SPORT AFTER HIP RESURFACING

Modern surgery and rehabilitation are increasingly enabling athletes to return to competitive sport after serious injuries that would have been considered career-ending only a few years ago. One example of this is the «Birmingham Hip Resurfacing», named after the implant of the same name that was developed in the 1990s in Birmingham, England.

The basic principle of the operation is to create new bone ball surfaces, i.e. the femoral head and the acetabulum, so that two implants can be used to replace the joint surfaces. This procedure is an alternative to total hip replacement (THR). The main advantage of hip resurfacing is that it preserves the hip bone, which is important for young patients in the event of further injury or surgery. It is also important to note that the implant used in hip resurfacing is slightly larger compared to THR, which increases its stability and the subsequent activity level of the patient, even when comparing age and activity level data prior to surgery, injury or joint disease. The disadvantage of this operation is that the body may react allergically to the metal structures, the fragments that are created when the metal rubs against each other. These fragments can also dissolve in the blood, but this does not cause problems if the kidneys function normally. Currently, the only material used in hip replacement implants is the metal alloy cobalt-chromium. For total joint replacements, however, ceramics can be used, which eliminates this problem [2].

In normal life, where the hip joint is not subjected to constant stress, surgery is most commonly performed in the late stages of osteoarthritis at the age of sixty or seventy, when the hip joint gradually wears away, exposing

the bone and causing severe pain. Professional sports such as handball, hockey and football 'age' the joint through stress, leading to pain at an early age. Surprisingly, tennis, with its many sudden stops and movements, and baseball are considered hip-friendly sports, and such complaints of persistent pain may be caused by an anatomical aspect of a particular athlete [1]. Most often this is dysplasia, which may not have been detected in early childhood. Professional athletes can easily tolerate this surgery due to the good bone quality (after regular sports activities) and the high level of activity, which makes the rehabilitation comprehensive and complete.

The rehabilitation period can be divided into three stages - normalisation of gait, restoration of range of motion, muscle strengthening. In general, the rehabilitation process, which includes firm attachment of the implant and healing of the surrounding bone, takes at least 6 months.

The first phase of recovery lasts from one to three months and is in many ways a psychosomatic problem - even after the body has realised that there is no pain when the hip is loaded, the psychological factor of fear can still slow down the rehabilitation process. At this stage, it is important to work out the problem not only with a specialist in physical rehabilitation, but also with a sports psychologist, if necessary.

The second phase focuses on stretching the soft tissues to increase the amplitude of movement. With repeated impact, the surfaces of the joints become smooth and the bone spurs are removed, so there are no obstacles to movement. However, soft tissues and muscles have a 'memory'. In order to work on such a "memory", which blocks many movements, it is recommended to use the technique of PNF stretching exercises or post-isometric relaxation, which will help to fully restore lost abilities, allow you to prepare the muscles for active strength work, as well as to restore normal muscle tone.

The third phase of recovery is the longest, some might say eternal, because in order to maintain the level of activity required in competitive professional sport, it is important to train the muscles on a daily basis to strengthen them and further reduce the risk of injury and damage [2]. At this stage, rehabilitation focuses on the muscles that have suffered the most from surgery and arthritis - the glutes, quadriceps and hamstrings. To monitor the results of the physiotherapy intervention, it is recommended that MMT tests are carried out every few months, changing the type of load without sticking to the same exercises.

For faster recovery and return to sport, an anti-gravity treadmill can be used, allowing the patient to begin shock loading earlier, and hydrokinesitherapy classes can be included in the rehabilitation programme. Exercising in water prevents the loss of muscle mass in the early stages of

rehabilitation after immobilisation and also reduces the risk of recurrent injury during recovery, as the limb is subjected to less stress than when exercising on land.

The main problem is that it is impossible to predict how long this implant will last, as the principle of this type of operation is relatively new. In general, everything depends on the quality of the surgery, the subsequent rehabilitation and the load the athlete puts on the new joint. This load varies according to the type of sport, but the wear of the implant is only a matter of time.

The very fact that there are examples of positive recovery and return in the modern history of professional sport is a breakthrough in the field of sports medicine and rehabilitation.

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