

PREHABILITATION

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'Prehabilitation (also known as prehab)' is an attractive word often used in sport, exercise and rehabilitation spheres. However, is it a concept that is truly understood or better yet utilized? Broadly, prehab can be applied in a sporting capacity or pre-operatively. From a sporting perspective, prehabilitation aims to prevent a problem before it occurs, whereas preoperatively it is used with the goal of reducing impairment after an operation as well as expediting the recovery process.

Prehabilitation applied in a sporting capacity:

As mentioned prior, prehab as applied to sports and strength and condition is used in aims to prevent an injury – injury prevention. There are a few prerequisites necessary for this to be executed effectively, namely:

1. It is imperative that the practitioner / strength and conditioning specialist is aware of the demands and risks of the sport in question.
2. Determine and identify common injuries and joints most vulnerable to injury due to the aforementioned demands of the sport (knee injuries in soccer i.e. Anterior Cruciate Ligament (ACL) injury).
3. Determine effective screening tools, such as the Functional Movement Analysis (FMA), that provides a reliable and valid identification of weaknesses or predisposing factors that put the athlete at risk of injury. These tools will need to effectively assess factors such as biomechanics, flexibility, strength, proprioception etc.
4. Understand other factors within the sport such as the rules of the sport, the player's position, equipment used etc. that also may predispose the athletes to injury.

Once the above has been determined and considered, the practitioner can then accurately prescribe exercises aimed at correcting weakness and fortifying the predisposed joints in aims to prevent injury. It is also important for the practitioner to understand the self-regulatory processes that may take place throughout prehabilitation and be able to apply psychological principles in natural and subtle ways to aid athletes' self-regulatory abilities.



Prehabilitaion applied preoperatively:

Despite the numerous advances in surgical techniques, anesthesia and perioperative care, major surgery remains morbid with a lot of patients not recovering to their previous capabilities. Indeed surgery is a physiological stress and decreases functional capacity in the postoperative period. A prehabilitation programme should increase functional capacity in anticipation of an upcoming stress.

The aims of prehabilitation are to improve both nutritional status and pre- and postoperative fitness, and to reduce postoperative complications:

1. Prehab has a multidisciplinary approach and it should occur after the surgical consultation and before surgery, and is based on three components: physical care (i.e. biokineticists, physiotherapists), nutritional support (i.e. nutritionists) and psychological support (i.e. sport psychologist), during 6 to 8 weeks.
2. Prehab occurs before rehabilitation and is done in preparation for the surgery.
3. The goal is to increase cardiovascular fitness and muscular strength and endurance prior to the operation, with the aim of reducing the recovery time after surgery.
4. Prehab is not only effective on orthopaedic operations (ACL reconstruction in the knee), but even effective in cancer patients (preoperative exercise, anxiety-reducing strategies, and protein supplementation may facilitate postoperative recovery).

The Role of the Biokineticist in Prehabilitation:

Before we can understand where the Biokineticist fits in the prehabilitation process, we need to understand of what a Biokineticist is. The word Biokinetics is taken from the Greek word "BIOS" which means "life" and "KINESIS" which means "movement". Biokinetics refers to the maintenance of quality of life through the use of physical activity. A Biokineticist is a trained professional who specialises in prehabilitaion and rehabilitation for a variety of conditions. These conditions include prehabilitaion and rehabilitation for:

- Injuries
- Surgeries
- Special populations with special needs such as diabetes, cancers, cerebral palsy etc.

For comprehensive prehabilitation, your biokineticists will do a full evaluation and injury risk assessments. This screening will consider things such as:

- The general risks of your sport or training and how to avoid them
- Risks that are specific to your training sessions or your position on field
- Your individual posture, flexibility, strength and core stability

After the screening, they will create a customised training program with the aim of preventing injury. This is achieved by means of a scientifically based physical activity programme to condition individuals according to the demands placed on them during their specific sporting codes or activities of daily living.

However, Biokinetics is not limited to the list above, it is also concerned with promoting health both in work environments and at home, as well as the maintenance of physical abilities.

Several researchers have suggested that sports medicine professionals (SMPs; i.e., biokineticists, physiotherapists, sport psychologist), who are in regular contact with athletes during treatment, are in an ideal position to inform, educate, and assist with both the psychosocial and physical processes of injury.

An individual may see a Biokineticist either for an injury prevention role (i.e. addressing the muscular imbalances) or before they go in for an operation to condition their muscles in order to decrease the time required for rehabilitation after the operation.

By seeking professional guidance, you'll benefit from:

- Improved posture
- Better flexibility
- Correct muscle length imbalance
- Correct joint alignment
- Better core stability
- Strength gains
- Enhanced muscle endurance and power

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