

## Injury Prevention from British Swimming



### Performance enhancement

- Technical Swimming models
- Key Performance Indicators
- Physical profiling & monitoring
- Performance & data analysis

### Injury Prevention

- Injury auditing
- Physical profiling & monitoring
- Risk identification
- Risk planning & management
- Load monitoring



### Injury Management

- Assessments and Diagnosis
- Treatment & rehabilitation planning
- Clinical treatment
- Rehabilitation Exercise prescription
- Physical profiling & monitoring

## FREESTYLE

**Mobility** - Shoulder Medical Rotation. Cervical and Thoracic Spine Rotation.

**Stability/ Movement Control** - Trunk ('Core') pillar strength. Scapula and Shoulder (Glenohumeral) movement control (pull).

**Strength** - Shoulder and Scapula stabilisers and lats/ pecs (Pull). Trunk stabilisers. Hip and knee flexors and extensors (Kick).

**Functional Movement** - Frontal plank holds with limb movements.

## BACKSTROKE

**Mobility** - Shoulder Medial Rotation. Cervical and Thoracic Spine Rotation.

**Stability/ Movement Control** - Trunk ('Core') pillar strength. Scapula and Shoulder (Glenohumeral) movement and control (pull).

**Strength** - Shoulder and Scapula stabilisers and lats/ pecs (Pull). Trunk stabilisers. Hip and knee flexors and extensors (Kick)

**Functional Movement** - Frontal plank holds with limb movements.

## BUTTERFLY

**Mobility** - Shoulder Medial Rotation. Thoracic Extension (pull).

**Stability/ Movement Control** - Trunk ('Core') pillar strength. Scapula and Shoulder (Glenohumeral) movement control (pull).

**Strength** - Shoulder and Scapula stabilisers and lats/ pecs (Pull). Trunk stabilisers. Hip and knee flexors and extensors (Kick).

**Functional Movement** - Frontal plank holds with limb movements.

## BREASTSTROKE

**Mobility** - Shoulder Medial Rotation. Thoracic Extension (Pull). Hip medial rotation and Tibial lateral rotation (Kick)

**Stability/ Movement Control** - Trunk ('Core') pillar strength. Scapula and Shoulder (Glenohumeral) movement control (pull).

**Strength** - Shoulder and Scapula stabilisers and lats/ pecs (Pull). trunk stabilisers. Hip and knee rotators. (Kick)

**Functional Movement** - Overhead (Streamline) Squat

Alongside the 4 key strokes, are the common skills such as Starts & Turns which also can be broken down into some key physical attributes.

## BLOCK STARTS

**Mobility** - Hamstring length. Ankle Flexibility. Hip Flexibility.

**Stability/ Movement Control** - Lumbopelvic stability. Single leg stability/ control.

**Strength** - Triple extension power (Ankle plantarflexion, hip and knee extension).

**Functional Movement** - Split squat to arabesque into SL explosive horizontal jump.

## BACKSTROKE STARTS

**Mobility** - Hamstring length. Ankle Flexibility. Hip flexibility.

**Stability/ Movement Control** - Spinal stability to support explosive power out of tuck position.

**Strength** - Triple extension power (Ankle plantarflexion, hip and knee extension).

**Functional Movement** - Tuck jump

## URNS

**Mobility** - Hamstring length. Ankle Flexibility. Hip Flexibility. Trunk Flexibility.

**Stability/ Movement Control** - Trunk flexibility (tuck) into pillar strength/ stability (streamline)

**Strength** - Triple extension power, horizontal counter movement. (Ankle plantarflexion, hip and knee extension).

**Functional Movement** - Tumble to CMJ.

The periods before and after the Pool sessions can provide an ideal time to work on some simple land based exercises and drills can be used to improve the physical qualities required for performance.