

MCCSC Prevention Workshop

NB. This is assuming you are not currently injured. If you currently have an injury please be careful and know your limits - if it causes pain, stop.

Sport rehabilitator vs physio

There's a cross over in fundamentals (anatomy, physiology, musculoskeletal) but differentiate in the other modules (physio - cardiopulmonary, neurology whereas sport rehab - biomechanics, rehab principles)

Physiotherapist - know a little about a lot, specialise later in career

Sport rehabilitator - know a lot about a little, musculoskeletal specialist from graduation (muscles, bones, tendons, ligaments)

Rehab vs prehab

We can never truly 'prevent' injuries, but instead we can reduce the risk of sustaining injuries. This is where preventative rehabilitation fits in.

Rehabilitation (rehab) - restoring physical capability after impairment or injury

Preventative rehabilitation (prehab) - an intervention to improve risk factors that predispose you to certain injuries

What does injury prevention mean?

Injury prevention means and looks like different things to different people as we are all different physiques, strengths, weaknesses and goals. Injuries can occur in sport, however a vast majority of injuries happen in day to day life like when you miss a curb and roll your ankle, or get lower back pain after lifting something heavy.

Injury prevention - process of maintaining functionality for activities of daily living and hobbies

My approach is if we improve functionality, then we improve our robustness.

Functionality and robustness go hand in hand.

Functionality - physical ability to perform daily tasks and hobbies

Robustness - physical ability to withstand injury and fatigue under challenging conditions

Components of injury prevention: mobility, stability and strength. However these should not be isolated or forced, instead come from our centre.

The Body's Centre

Our primary 'centre' of the body is the TVA (transverse abdominals) - deep core muscles. The TVA connects your upper limbs, trunk and lower limbs as well as being the main stabiliser for the spine and pelvis.

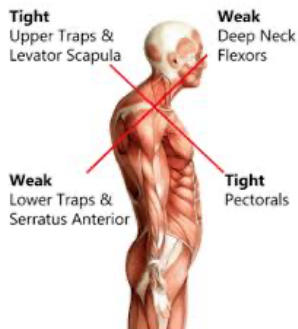
To engage the TVA, lie on your back with knees bent. Place your hands on the front of your hips and find the bony prominence sticking out. From there come down one inch and inwards one inch. To feel the TVA activate under your fingers either go into

a posterior tilt (pressing your lower back into the floor), or cough slightly. Aim to engage the TVA in EVERY exercise you do as it helps the movements come from your centre.

Posture

Mobility, stability and strength are important, however posture occurs 24 hours a day, 7 days a week and so can have a massive impact on mobility, stability and strength.

Most common 'poor' posture: rounded shoulders, bowed head



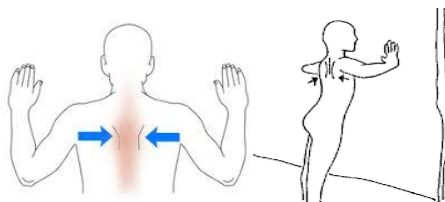
Comes from the combination of tight pecs and traps plus weak serratus anterior and neck flexors. Muscles work in opposing pairs to create movement

You don't have to have 'poor' posture to do these 2 exercises to improve your posture



Chin tucks

It looks and feels weird but how often do you use your neck extensors? This exercise helps reset our head position especially when phones/ computers/ TVs are always in front of us



Scapula wall press

To counteract rounded shoulders, squeeze your shoulder blades back and down into their pockets. Press through the heel of your hand to engage the serratus anterior. Aim to maintain both the scapula

and heel pressure throughout the movement. This is about resetting into a better posture, not doing as many reps as possible.

Mobility

Everything should be gentle and purposeful. Aim isn't to spend minutes in each position uncomfortably trying to get more flexible but rather feel looser and more mobile after.

Flexibility - amount of available range of movement

Mobility - ability to move freely

E.g. you can have 'limited' flexibility but good mobility and it's what is functional for the person

Most types of Pilates and Yoga have similar exercises so you might already be doing some of these. This is a 10 minute mobility programme that covers all major joints.

This video with audio takes you through each exercise, aim for 3 reps per exercise.

<https://drive.google.com/file/d/1qDEEbIkJ2z8M7e7e8LME9UHsZQQxzMUb>

- Roll downs, walk hands out forward, lift one leg and open hip
- Step through to lunge, rock back and forth, back knee down
- Calf to hamstring rocks, chest openers, knee down and press to downward dog
- Repeat opposite side
- Float knees down into 4 point kneeling, thread the needle, cat and cow
- Child's pose circles, swing legs round and onto your backs
- Hung the knees in and lumbar massage, knee rolls
- Release and make your way back to 4 point kneeling
- Walk hands back and roll up to standing

Stability

Stability is more than just balance, it replicates real world settings where everything isn't stationary.

Balance - maintain centre of mass over base of support eg. standing on one leg

Stability - maintain control against external forces or change in position eg. being nudged whilst standing on one leg



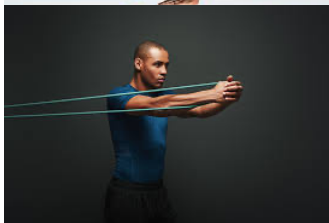
Bird dog

Closed chain shoulder and core stability. If you perform it against a wall, you will gain immediate feedback if you are compensating by shifting the hips. Remember TVA activation still applies!



Bear crawl

Closed chain shoulder and core stability with reduced base of support



Palf press

Start in a split stance (one leg in front of other) and resistance band out in front of you. Get them to pull the resistance band from different angles. Your job is to resist the external force and stay stable



Cable chop

Multicomponent movement combining high to low, left to right (and vice versa), extension to flexion and rotation. Focus on maintaining proper form throughout the movement

Strength

Out of the 3 areas, strength is where most individuals have the most knowledge. I would advocate for training strength through functional range. This usually can't be achieved on a machine and so doing a sit to stand/ squat targets functional range much more than a leg press, even though the action may be very similar. Below are a mixture of suggestions, some which can be done at home, others may be more appropriate at a gym or with a small weight.

- Sit to stand, step ups, squat, lunges, glute bridges
- Press up, Turkish get ups, tricep dips
- Kettlebell swings, deadlift
- Overhead press, bicep curl to shoulder press

Pre Activation

The aim of activation is to wake up and activate all the muscle groups and movement patterns you are going to be using. This improves the efficiency of the training and activates not only the big muscles that produce the movement but also the small muscles that stabilise to reduce the risk of injury. Focus should be on form, activating the right muscles and awareness of where the movement is coming from. This video with audio takes you through each exercise, aim for 6-8 reps.

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- Pelvic tilts, to TVA activation, to dead bug
- Glute bridges with glute squeeze, to marching, to hamstring bridge
- ITWs scapula retraction
- High plank, to press up, to side plank twist
- Lateral lunges
- Standing hip abduction
- Squat or wall sit

Key Closing Points

1. Injury prevention should be based around 3 key areas (mobility, stability and strength) to improve functionality and robustness
2. All movements should come from our centre (TVA) as this is the main structure coordinating our upper limbs, trunks and lower limbs
3. Work smarter not harder - by activating all the big mover muscles and small stabilising muscles you get more out of each exercise