NETBALL

STRENGTH & CONDITIONING PROGRAM

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MOMENTUM FITNESS WARRNAMBOOL

STRENGTH & CONDITIONING

Ensure game impact when it matters

Allow them to be available and sustain performance throughout a season

To create players who can produce and tolerate higher intensity and quality netball; daily.

This program is deigned to help you become the best player you can be, and play as long as possible and remain as injury free as possible. We have confidence in this program, confidence in you and confidence in you as a person to achieve great fitness as an athlete.

What is Strength & Conditioning?

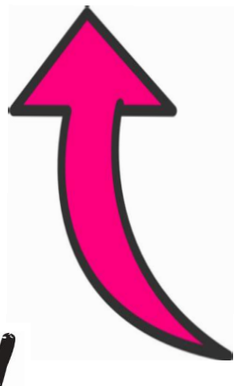
It is important to recognise that it is YOUR responsibility to take your Strength & Conditioning training seriously as part of your training at an early stage of your netball career.

You need to learn to become a better athlete as well as a netball player.

A well rounded Strength & Conditioning program aims to develop the physical capabilities within an athlete so that they can continually train at a level that will allow them to play netball at the highest level and reach your potential.

THE STRENGTH & CONDITIONING PERFORMANCE PLAN

Senior Netballers



Junior Netballers

Strength & Conditioning in netball focuses on 4 key areas. This diagram represents the shift in importance of these 4 components as you move through the MFW Strength & Conditioning Program.

All of these components are important for your development as an athlete but at the moment, the majority of your work should be focused on injury prevention.

SPEED

POWER

STRENGTH

INJURY PREVENTION

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WHY IS S&C TRAINING IMPORTANT FOR ME?

INJURY PREVENTION

Netball is a very quick, explosive and high intensity game, which unfortunately can increase the risk of injury. Knee and ankle injuries are the most common type of injury to occur in netball, making up 85% of total injuries. The anterior cruciate ligament assists in providing stability to the knee joint, and accounts for 16-18% of knee injuries in netball. It is known that females are much more likely to rupture their anterior cruciate ligament and the highest risk group for ACL injury is 15-18 years 1, which is also the age that netball intensity often increases. There are many factors which can contribute to an injury occurring in netball, though some are more difficult to prevent such as a traumatic collision with another player, or falling. Sudden stops and repeated landing will increase the risk of injury, with landing being the most common cause of injury. A study undertaken in 2015/2016 showed that landing accounted for 46% of all causes of injuries in netball 1. The good news though is that there are many risk factors that can be prevented and minimising these will reduce your risk of injury while playing netball. Some factors which can help to reduce your risk of injury in netball include:

Adequate warm up

*Post match recovery including cool down, nutrition and hydration

*Appropriate training and competition clothing and footwear

*Skills training, particularly jumping and landing drills

1. Activation

The posterior chain of muscles encompasses all the muscles on the backside of your body, all the way from your head to your ankles.This includes hamstrings, glutes aka the muscles in your bum, calves and the muscles supporting your spine and back.The posterior chain has some of the largest and strongest muscles in your body. In a nutshell, this chain is a massive powerhouse!It's important for many forms of movement. Running, jumping, bodily rotation, pulling or pushing all involve this huge muscle group. It is also integral for the stability of your knee, hips and spine. It helps to maintain your balance and posture which is important for everyday life as well as sporting endeavors. A strong posterior creates a powerful central force which will improve your movements on and off the court.

Start

Figure 1. The Glute Bridge

Finish

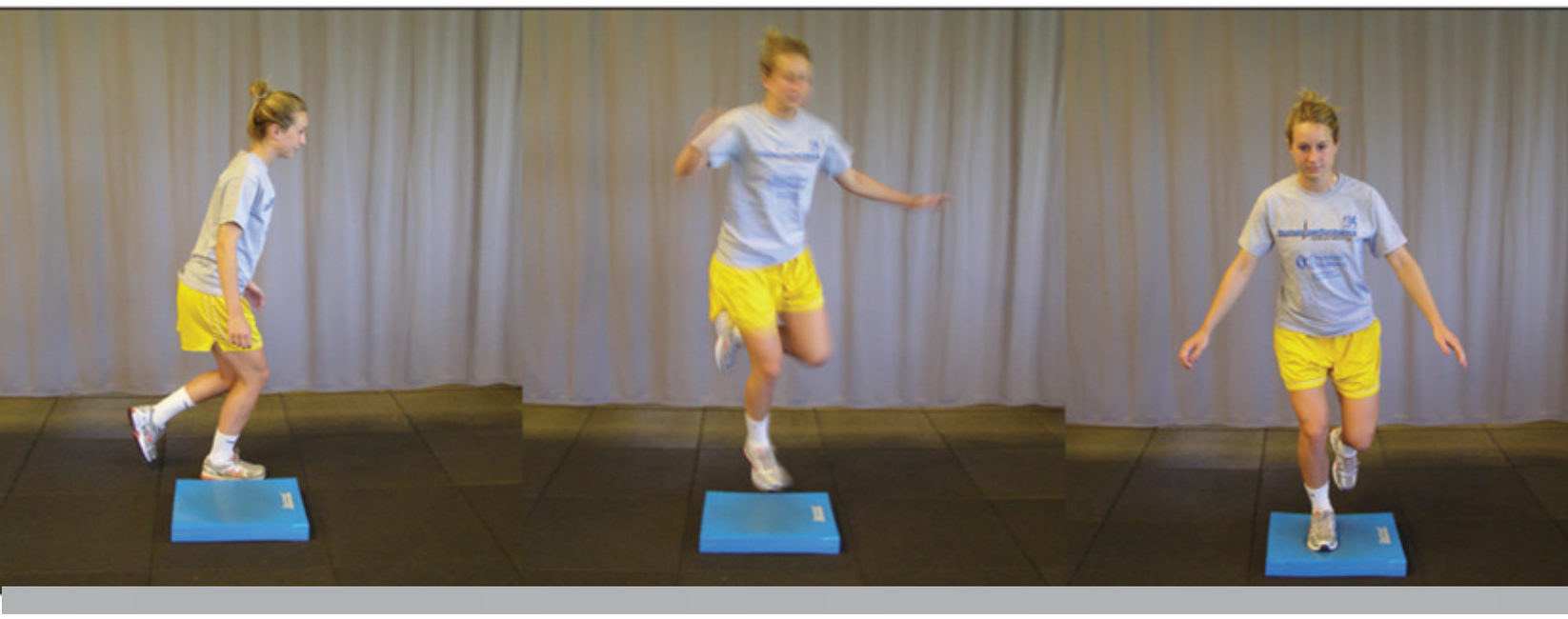
WHY IS INJURY PREVENTION IN NETBALL IMPORTANT?

Netball has one of the highest injury rates per participant of any sport (Fong, 2007). At both an elite and junior level netball injury prevention is vital. During this dynamic fast paced sport, the body is exposed to high forces contributing to lower body injury rates (Mothersole, 2013). A staggering 85% of netball injuries occur at the knee and ankle, of this 45% of these injuries occur during landing (Netball Australia Personal Accident Insurance 2010-14). These statistics highlight just how import the correct jumping and landing technique is to enhance performance and prevent injury.

Conditioning and technique training to effectively mitigate injury risk and improve performance is particularly important amongst the female population (Mothersole, 2013). Recent figures show females are 4-6 times more likely than males to rupture the anterior cruciate ligament (ACL), and it is estimated that as high as 25% of all major injuries in netball are attributed to ACL alone (Netball Australia, 2017).

For netballers this means a costly injury that can result in more than 12 months away from the netball court.

Figure 2. The Hop & Hold Test



Start position **Hop** **Hold**

IN SEASON STRENGTH & CONDITIONING PROGRAM

WHAT ARE THE AIMS OF THE IN SEASON STRENGTH & CONDITIONING PROGRAM?

1. Reduce injury risk and keep athletes on the court during the season

2. Enable athletes to withstand the rigors of a high intensity netball season

3. Provide a positive experience of, and educate athletes on Strength and Conditioning in netball.

The steps outlined below will guide you through what it takes to excel as an athlete by forming a solid base of strength, conditioning, and athletic movement skills. The program is intended to be performed prior to Club pre-season training, so that you are able to begin pre-season with a good fitness base. The training stimulus throughout this program will assist you to continue to build and maintain a high performance level. In your spare time and non training days it is advised to rest and recuperate with walking, massage and magnesium baths where possible to remain fit and healthy.

WHAT DOES THIS STRENGTH & CONDITIONING PROGRAM INVOLVE?

1. **Assessment -** A series of physical tests to establish your athletic ability and to track your progress. These tests may be carried out at certain times throughout the year..
2. **Preparation/ Warm Up -** Warm ups that include elements of mobility, muscular activation and landing skill development to reduce your risk of injury and improve you performance during sessions.
3. **Strength Work -** These programs include a multitude of body weight and loaded exercises to improve strength around the ankles, hips, knees, trunk, and shoulder. They can be completed at home or in the gym. Strength work will improve performance and reduce the risk of injury.
4. **Conditioning Work-** These programs include on court running sessions, as well as some bike conditioning work if you are currently injured . The sessions aim to develop your ability to reproduce high intensity efforts on court.

Click on each of the following exercises for a video description

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PREPERATION/WARM UP

WARM UP – MOBILITY (10-15MIN)

Athletes should perform 10-15minutes of mobility work prior to any court, strength, or conditioning session to prepare the body to move and activate intricate muscle groups.

This mobility program is an important element throughout the off season and in season training period.

STABILITY/MOBILITY PROGRAM			
To be performed prior to every strength, and conditioning session.			
EXERCISE	SETS	REPS	NOTES
Forward and Reverse Lunge	2	12/Leg	Chest up, Drop back knee. Push explosive
Arabesque Rotation	2	12/Leg	Keep chest up and focus on point.
Single Leg DB DL	2	6/Leg	5 Second hold at the top.
Single Leg Hip Thrust	2	12/Leg	Hips remain in alignment. Squeeze glutes at the top.

WARM UP – MOBILITY (10-15MIN)

After Mobility work has been completed, athletes need to activate the key muscles required to perform. Strict attention should be paid towards the quality of execution and the muscles that are working during the activation exercises.

ACTIVATION			
To be performed prior to every court session and/or strength session.			
EXERCISE	SETS	REPS	NOTES
Plank with s/leg raises with band	2-3	12/Leg	Hold at the top for a count of 2
Hip Hikes	2-3	15/Leg	Make foot weightless before lifting
Crab Crawl		12 each way	
Pogo	2-3	30 secs	Upright stance, knees slightly bent, chest out shoulders back
Rocket Jump	2-3	30secs	Begin relaxed, upright stance, feet shoulder width apart, slightly flex arms & hold close to body
Ankle Flips	2-3	10/Leg	Assume relaxed, upright stance with one foot forward

WEEKS 1-8

Landing Skills

Landing exercises are crucial to any netball athlete. A large percentage of netball injuries occur during landing; therefore, these exercises are very important.

The goal is to jump higher and further as the week's progress.

Landing should be quiet, soft and involve good alignment of the hip, knee, ankle, and trunk.

LANDING SKILLS WEEKS 1-8			
These can be performed before netball specific training, or performed on strength training days			
EXERCISE	SETS	REPS	NOTES
Single Leg Hop into Single Leg Squat Holding Netball	2	5/Leg	Control squat for 3 seconds
S/L Squat Jump	2	12/Leg	On box. Hold landing for 3 seconds
Double Leg Take Off to Single Leg Lateral Landing	2	5/Leg	Holding landing for 3 seconds
Reverse Leap and Hold	2	5/Leg	Hold landing for 3 seconds
NOTES			
- All landings must be held for 3 seconds with good alignment and hips and knees bent. - All landings must be **soft on feet.** Feet need to absorb the impact, not the knees. - During all single leg landing tasks where you are traveling for distance, the non-working leg must not touch the ground. If the non-working leg is placed on the ground, reset, and start the set again.			

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STRENGTH PROGRAM WEEKS 1-8 (40MINUTES)

Strength work should be performed twice a week for maximum benefit.

STRENGTH PROGRAM WORKOUT 1: WEEKS 1-8 (supersets)									
Perform four mobility and activation exercises. Add resistance as you progress									
EXERCISE	WEEKS 1&2		WEEKS 3&4		WEEKS 5&6		WEEKS 7&8		REST
	SETS	REPS	SETS	REPS	SETS	REPS	SETS	REPS	
1a. BB Squat **1b.** DB Squat Jumps	3	8	4	8	4	6	5	6	60secs
2a. DB Romanian Split Squats **2b**. Box Jump off one leg, two feet landing	3	8 8-10/Leg	4	8 8-10/Leg	4	6 8-10/Leg	5	6 8-10/Leg	60secs
3a. S/L Box Squat **3b**. Lying Hamstring Curls on Stability Ball/Lying Hip Thrust	3	8 8/Each	3	10 8/Each	3	12 8/Each	3	15 8/Each	60secs

POWER TRAINING PROGRAM WORKOUT 2					
EXERCISE	SETS	REPS	INTENSITY	NOTES	REST
Hex Bar Jump Shrug	4	6	40-45 of Squat	Bend knee & Hips slightly, shoulders over bar with chest pushed out, jump vertical.	2mins
Hex Bar DL	4	6	80-85	Start tall, keep hands in line with body, push through heels and push hips	2mins
BB Push Press	4	6	60-70	Feet shoulder width apart, elbows pointing forward, drop into shallow squat, press up through heels	2mins
Depth Jumps	4	6	BW	Drop from low box, and explosive jump with both feet onto higher box	2mins

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SPEED/CONDITIONING PROGRAM WEEKS 1-8

SPEED/CONDITIONING PROGRAM WEEKS 1-8										
Perform the four Mobility Program and Landing Skills Program prior to beginning this set										
Session Description	**WEEKS 1-4**					**WEEKS 5-8**				
	ON FEET SESSION OPTION									
	Week 1	**Week 2**	**Week 3**	**Week 4**	**Course**	**Week 5**	**Week 6**	**Week 7**	**Week 8**	**Course**
Repeat Sprint Session: This type of session involves maximal sprinting over set distances. The faster you complete the sprint the greater the results. Make sure to rest between sets to ensure maximal effort is used during the set. 1 recommend 90-100% RPE in every set. The quicker you recover is also a good indication of your improved fitness.	**Beep Test then:** 5x3min interval running 40m (3x10m) Triangle. 90secs rest between sets, Then run in the other direction.	2 x 12x15 secs straight line interval running, 15secs rest the repeat.	Shuttle on Repeats: Set 1 Forward 1st then Backwards then shuttle as normal, then first 2 cones forward and backwards, shuttle as normal and so on for all 5 cones. Rest 90secs repeat for 5 sets.	Beep Test then: 6x3 min interval running 40m (3x10m) triangle, 60secs, rest between sets. Then run other direction	**FINISH**	10X30m (3X10m shuttles) on a 20ses rolling clock.	3x1km running. All close to same times as each other. 90secs rest between sets. This is to add endurance into your training and enhance your physical and mental health endurance.	12x30m (3x10m shuttles) on a 20sec rolling clock	**Beep Test Then:** 10x30m (3x10m shuttles) on a 20sec rolling clock. This time begin each rep with 5 secs of sprinting on the spot.	**10M**
	MOBILITY	**AGILITY**	**MOBILITY**	**AGILITY**		**MOBILITY**	**AGILITY**	**MNOBILITY**	**AGILITY**	
	Fire hydrant 3x 20/side. V-sits 3s15 reps the hold for remainder of 45secs. Leg raises 3x20 stability ball knee tuck 3x20 side leg raise with band 3x15/leg	Forward running with high knees 3x15m. Forward running 3x15m. Forward bum kicks 3x15m. Run bum kicks 3x15m. High skips 3x15m **WALK BACK RECOVERY AFTER EACH**	Stability ball spider man 3x10/side. Broad jumps 3x10 S/L Glute bridge 3x15/Leg. Crab walk with band 3x10/each way	2 jumps forward, 1 back 3x10m. Squat in / hop out 3x5m. S/L forward hop 3x10m. Lateral walking lunge 3x15m **WALK BACK RECOVERY AFTER EACH**	**START**	Pogo 3x10. Rocket Jump 3x.5. Scissor Jump 3x5/Leg. Fast skipping 3x10. Ankle bounding 3x10.	Forward jump over hurdle 3x10. 1 forward 2 back over hurdle 3x10. Lateral jumps over hurdle 3x10. S/L over hurdle 3x10/Leg **WALK BACK RECOVERY AFTER EACH**	S/L DL 3x10/Leg. KB oblique twist 3x20/side. Lunges 3x10/Leg. MB standing wood chop 3x15/side. MB lunge with twist to kneeling foot 3x10/leg	Side step ladder 3x12. 2 foot jumps in/out 3x12. Left/right foot 3x12. 4 step in/out 3x10. Wide and narrow 3x12. Hip twist 3x12. **WALK BACK RECOVERY AFTER EACH**	
	WEEKS 1-4					**WEEKS 5-8**				
	HIIT/GYM BASED CONDITIONING SESSION									
	Boxing 30mins Then: Metcon workout. Sled push 10 2 teams, 30mn continuous	MetaPwr session. Then: Ski Erg 300m, 200m, 100m Malcom 1,2,3	Boxing 30mins Then: Metcon Workout TBA	MetaPwr session. Then: Tyre Flip/Drag		Boxing 30mins Then: Metcon workout TBA	MetaPwr Session. Then: Ski Erg 300m, 200m, 100m. Malcom 1,2,3	Boxing 30mins, Then: Metcon Workout TBA	MetaPwr session. Then: Tabata push ups, squats, sit ups.	

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COOL DOWNS

After you have finished a session it is important that you implement a cool down procedure to help kick start the recovery process and maximise how effective you're training is in improving your athletic ability. An appropriate Cool Down can help to clear lactate that may have accumulated in the system, and static stretching is important in helping to regain length in the musculature use during a session.

You can modify your approach depending on the equipment and resources you have available to you.

In the table below there are options that can be performed, on feet, on bike, or in a pool.

COOL DOWN PROTOCOL/GUIDANCE	
Option 1 (On feet or court)	**Option 2 (Off Feet – Bike)**
1. Run at a steady pace for 5mins, Athletes should aim to cover length of court (or 30m if they are running outside) every 10-11secs 2. Choose three static stretches of your choice, or three from the 'Fab Four' Mobility Program and spend 5mins executing these with good quality	**Pedal at the following rates:** - 1min at 60 RPM – Moderate resistance - 1min at 70 RPM – Moderate resistance - 1min at 80 RPM – Moderate resistance - 1min at 70 RPM – Moderate resistance - 1min at 60 RPM – Moderate resistance Perform 5mins of static stretching after on the bike.
Option 3 (Pool Recovery)	
If you have access to a pool after your; court, strength or conditioning sessions, making use of pool based recovery is an effective option to maximise the adaptations of training sessions and reduce fatigue levels. Pool Recovery Session Rules: 1. 15-20mins in length 2. Athletes must be submerged from belly button down 3. The session should contain mobility elements (See across for example)	**Example Pool Recovery Session:** 1min aqua jogging 1 width of pool walking, incl. quad stretches 1min of aqua jogging 1 width of pool walking, incl. knee hug stretch 1min of aqua jogging 20 leg swings forward and backward 1min aqua jogging 20 leg swings side to side Repeat the above x 2

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