

## THE CHALLENGE BY NEIL SIMPSON.

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### PART 1

Any article which mentions Mel Siff in the opening paragraphs is, in my opinion, worthy of further examination. So, it was with great interest that I read the Technical Journal article by Nick Tatalias on October 31<sup>st</sup> 2006. I thought it was a very interesting and thought-provoking article and have to agree with him about the poor tackle shape in the photograph on the RFU website.

There are two particular items in Nick's list of 'Action Points' that I would like to expand on here and these are:

1. "Player strength conditioning should improve."
5. "Institute strength testing."

Whilst I agree wholeheartedly with both of these points, I do foresee a number of problems, particularly for players at grassroots level. For the purposes of this article I am assuming *grassroots* means below National League level.

When we look at the suggestion that players should improve their strength conditioning, a really important question emerges: where should the players turn to get advice in order to achieve this? Let's look at the options and consider the merits of each.

#### 1. The club coach?

The main problem with this is that most coaches don't have the time to advise players individually regarding specific programmes. Actually, I am

being somewhat benevolent here, as the truth is that most club rugby coaches have neither the time *nor* the knowledge required to advise players on their strength conditioning.

## 2. Other players?

This, unfortunately, could be the worst place to start. Whilst some players will have done their research and chosen their training mentors wisely over the years, many others will still be just comparing their bench press (or any other lift) with their peers. There is nothing wrong with this type of inter-squad competition, but how much functional crossover does the bench press produce for the modern day rugby player compared to other multi-joint exercises such as the deadlift or squat?

## 3. Their local gym instructor?

This is a difficult one. Whilst, in theory, gym instructors should be qualified to advise players on what they need, it is my experience that many live off their original basic certifications and fail to keep up to date with the latest in exercise physiology! Try asking your local gym instructor about exercises specifically to strengthen your posterior chain and you're likely to end up with directions to your nearest hardware store.

My second concern relates to instituting strength testing for players. Given the challenges I outlined above relating to getting good advice on improving strength conditioning, who, realistically, is likely to be in a position to implement a strength testing programme for players? Who would understand the merits and/or perils associated with testing players for a one-rep max on the deadlift? Would all players be tested against the same standard (or weight) or should it vary according to body weight? Do you take into account body fat levels and hydration levels? If so, how do you measure these parameters? What about those recuperating from injuries? Are there other parameters of which you are not even aware, for example the mechanical advantage of short-limbed over long-limbed athletes?

As you can see, whether it's implementing a strength conditioning programme or instituting strength testing protocols, there are many hurdles for coaches and there are undoubtedly many decision points where a certain degree of knowledge is required.

## PART 2 – POTENTIAL SOLUTIONS

In Part 1 I highlighted some problem areas with regard to Nick Tatalias' suggestions that players should improve their strength conditioning and that coaches should institute strength testing. In this second part, I would like to explore the mechanics of implementing a basic strength conditioning programme and also offer some further thoughts on strength testing.

*I must stress at all times that this article is written with grassroots players, those outside the National Leagues, in mind.* Above this level, I would expect players/clubs to have access to the appropriate specialist advice and be in a position to produce personalised programmes for each player.

### **STRENGTH CONDITIONING FOR GRASSROOTS PLAYERS.**

I'd like to start with a couple of caveats. In the strength programme I describe below, I make no use of Olympic lifts, which seem to be in vogue in many sports today. There are two reasons for this:

1. Coaching the Olympic lifts is very difficult and should not be attempted by someone without the relevant qualifications (you can find a *Courses* link on <http://www.bwla.co.uk/>).
2. It is my opinion that, with the amount of gym time available being limited, the best approach is for a player to concentrate on simple, basic strength exercises. Furthermore, I'm not convinced about the fact that these Olympic lift exercises are as sports-specific as many claim. I prefer to leave sports-specific training to the practice pitch.

Before we go any further, I think an explanation of some of the terminology used is required:

Midpoint.	The point during an exercise midway through the range of movement where the target muscle is under maximal tension.
One-rep max.	Is the maximum amount of weight one can lift in a single repetition for a given exercise through a full range of motion.
Posterior chain.	A group of muscles which is important in force development for explosive movements like jumping and sprinting. The muscles which fall into the posterior chain are the hamstrings, the calves, the gluteals and the lower back.
Pronated grip.	Where the palms face away from your body in the lift.
Range of motion.	Is the normal range of movement for a joint (specifically flexion and extension).
Superset.	This involves alternating between two exercises with no rest in between the alternating exercises. You do rest, however, after each superset.
Supinated grip.	Where the palms face towards your body in the lift.

Further, I need to say few words relating to exercise selection. This programme is designed specifically as an in-season programme and the exercise selection, or more specifically those exercises left out, reflect this. During pre-season, I would probably have included front squats, heavy back squats and core conditioning. You will note also that there is no direct tricep or bicep work – these muscles get plenty of work during the pushing and pulling exercises included. Neither is there any direct core work, which is taken care of during deadlifting and club contact sessions. The core is constantly being activated when a player is involved in contact and, if you don't believe this, try tackling without tensing your abdominals! Finally, there is no direct calf work as, in my opinion, calves respond best to the high rep work they get during sprinting and plyometric exercises.

Many junior clubs train on Tuesday and Thursday evenings, so in the programme below, days one and two would equate to Monday and Wednesday. Obviously Sunday is reserved for your well intentioned players' recovery sessions.

The notes accompanying each lift have been kept to a minimum and consist really of a single piece of advice for each lift.

### **DAY ONE:**

#### **Exercise 1: DEADLIFTS.**

Sets: 5 (2 warm-up sets, 3 work sets).

Reps: 5-8.

Rest: Between sets 1 and 2, one minute; between sets 2 and 3, two minutes; between work sets, three minutes.

#### **Deadlift**



Deadlift 1.



Deadlift 2.



Deadlift 3.

#### **Deadlift photographs.**

1. Set-up front view.

- Feet slightly wider than shoulder width apart.
2. Set-up side view.
    - Slight concave shape to the back.
  3. Midpoint, side view.
    - Head up, shoulders back

**Exercise 2: ROWS (barbell, dumbbell or cable).**

Sets: 3.

Reps: 8-10.

Rest: Two to three minutes between sets.

**Bent over row – barbell.**



Bent over row – barbell 1.



Bent over row – barbell 2.

**Bent over row – barbell photographs.**

1. Set-up, side view.
  - Slight concave shape to the back.
2. Midpoint, side view.
  - Keep body no more than 45° away from horizontal.

### Bent over row – dumbbell.



Bent over row – dumbbell 1.



Bent over row – dumbbell 2.

### **Bent over row – dumbbell photographs.**

#### 1. Set-up.

- Slight concave shape to the back.

#### 2. Midpoint.

- Do not twist the back as weight is drawn up.

Sets: 3.

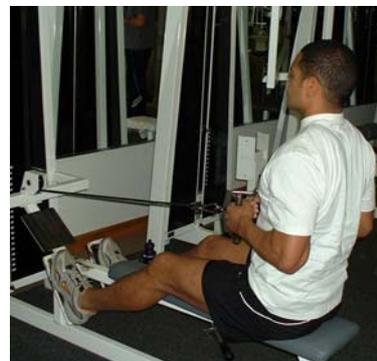
Reps: 5-8.

Rest: Two to three minutes between sets.

### Seated cable row.



Seated cable row 1.



Seated cable row 2.

### Seated cable row photographs.

1. Set-up.
  - Slight concave shape to back.
2. Midpoint.
  - Maintain upright posture.

### Exercise 3: PULL-UPS or PULLDOWNS (pronated grip).

#### Pull-up.



Pull-up 1.



Pull-up 2.

#### **Pull-up photographs.**

1. Set-up.
  - Wide pronated grip.
2. Midpoint.
  - Pull-up to chin level or beyond.

#### Pulldown.



Pulldown 1.



Pulldown 2.

**Pulldown photographs.**

1. Set-up.
  - Wide pronated grip.
2. Midpoint.
  - Minimise flexing of wrists.

**Exercise 4: SHOULDER PRESS (dumbbell).**

Sets: 5 (2 warm-up sets, 3 work sets).

Reps: 5-8

Rest: Two to three minutes between sets.

**Shoulder press – (dumbbell).**



Shoulder press – (dumbbell) 1.



Shoulder press – (dumbbell) 2.

**Shoulder press – (dumbbell) photographs.**

1. Set-up.
  - Keep feet flat on floor.
2. Midpoint.
  - Maintain control of the dumbbells at all time.
  - Clanking the dumbbells at any time is acceptable only if you mean to do it.

**Exercise 5: BENT OVER RAISES (dumbbell).**

Sets: 3.

Reps: 8-10.

Rest: Two to three minutes between sets.

Notes: This can be superset with exercise 4.

### Bent over raises (dumbbell).



Bent over raises (dumbbell) 1.



Bent over raises (dumbbell) 2.

### **Bent over raises (dumbbell) photographs.**

#### 1. Set up

- Slight concave shape to the back.
- Backside sticking out.
- Soft knees.

#### 2. Midpoint.

- Maintain slight bend at elbow.

### **DAY TWO:**

#### Exercise 1: **BENCH PRESS (barbell).**

Sets: 5 (2 warm-up sets, 3 work sets).

Reps: 5-8.

Rest: between sets 1 and 2, one minute; between sets 2 and 3, two minutes; between work sets, three minutes.

### **Bench press (barbell).**



Bench press with barbell 1.



Bench press with barbell 2.

### **Bench press with barbell photographs.**

1. Set-up
  - Keep feet flat on floor.
2. Mid-point
  - Bring bar down to touch chest.

### **Exercise 2: INCLINE PRESS (dumbbell).**

Sets: 3.

Reps: 8-10.

Rest: Two to three minutes between sets.

#### **Incline press (dumbbell).**



Incline press (dumbbell) 1.



Incline press (dumbbell) 2.

### **Incline press (dumbbell) photographs.**

1. Midpoint.
  - This can also be used as the set-up position.
2. Set-up
  - Bench set at 20-30° off horizontal.

### **Exercise 3: DIPS (dip/chins station).**

Sets: 3.

Reps: 10+.

Rest: One to two minutes between sets.

### Dips.



Dips 1.



Dips 2.

### **Dips photographs.**

#### 1. Set-up.

- Maintain slight bend at elbow.
- Do not lock out arms.

#### 2. Midpoint.

- Upper arm goes to perpendicular or lower.

### **Exercise 4: SINGLE-LEG SPLIT SQUAT.**

Sets: 5 (2 warm-up sets, 3 work sets).

Reps: 5-8.

Rest: Between sets 1 and 2, one minute; between sets 2 and 3, two minutes; between work sets, three minutes.

### **Single leg split squat - on machine.**



Single leg split squat 1.



Single leg split squat 2.

### **Single leg split squat (on machine) photographs.**

#### 1. Set-up.

- Front foot remains on floor.
- Knee tracks out over foot.

#### 2. Midpoint.

- Can allow back knee to touch floor gently.

### **Single leg split squat (dumbbells).**



Single leg split squat (dumbbells) 1.



Single leg split squat (dumbbells) 2.

### **Single leg split squat (dumbbells) photographs.**

#### 1. Set-up.

#### 2. Midpoint.

- Front foot remains flat on floor.
- Knee tracks out over foot.

**Exercise 5: STIFF-LEGGED DEADLIFTS, HAMSTRING CURL.**

Sets: 3.

Reps: 8-10.

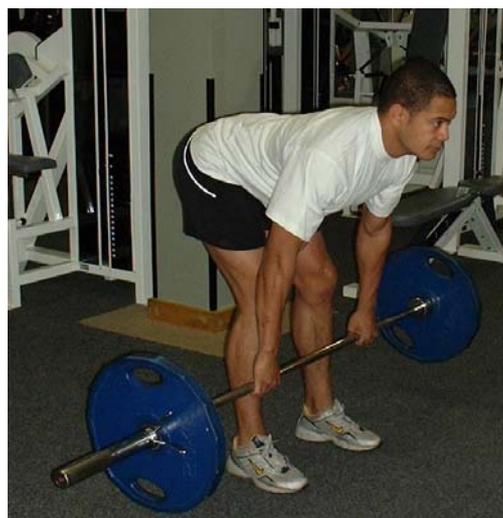
Rest: Two to three minutes between sets.

Notes: can be superset with 4.

**Stiff-legged deadlift.**



Stiff-legged deadlift 1.



Stiff-legged deadlift 2.

**Stiff-legged deadlift photographs.**

1. Set-up.

- Grip slightly wider than shoulder width.

2. Midpoint.

- Straight legs but with soft knees.

**Hamstring curl.**



Hamstring curl 1.



Hamstring curl 2.

### Hamstring curl photographs.

#### 1. Set-up

- Keep hip in contact with pad throughout.

#### 2. Midpoint

- Raise heels as far as possible then lower under control.

### INSTITUTING STRENGTH TESTING.

When talking about strength testing, most people probably think about performing one-rep maximums. This is a *very* bad idea. Here's why:

1. It is very dangerous. With any form of weight lifting, in order to ensure injury-free lifting, form is king. However, when performing a maximal lift such as a one-rep max, the player may well sacrifice form in the name of lifting more weight – thereby *vastly increasing the risk of injury*.
2. It's not as straightforward as it sounds. Do you, or your player, know the correct protocol to warm-up for a one-rep max? Will he have two *experienced* spotters available to help him in case he fails during the lift? Will the spotters be able to ensure the player's form is correct throughout the exercise?
3. Does it serve any real purpose? Do you want to use it for goal setting? If so, testing for the five-rep max may be a better idea. If players are really interested in their one-rep max, then they can calculate their theoretical maximum using a one-rep max calculator like the one here at <http://www.bodybuilding.com/fun/1rm.htm>
4. There are many other points to consider. Which lifts would you test? How often would you test? What do you do about players who are recuperating from injuries, or just with slight twinges? These are just a few of the many additional points that need consideration.

There is a viable alternative to one-rep max strength testing and, as I have tried my best to show the potential problems with such a system of testing, it's only fair that I mention this here. As stated previously above, you could test for a five-rep max. This is far less dangerous and the warm-up could be as simple as 10 reps at 60% target weight then 8 reps at 80% target weight. Be sure to be consistent with your warm-up protocol so that your results are comparable. Lifts you could use are squats, deadlifts, bent over row, bench press or push press. However, it is worth noting that you should avoid testing multiple lifts in the same session as fatigue will invalidate the results and could also lead to a loss of form.



I hope that this article has provided rugby players and coaches alike with some useful information in implementing a strength conditioning programme and on instituting strength testing, particularly for those who do not have access to the services of a full-time Strength and Conditioning specialist.

*The following page (16 and 17) can be printed off for players. It shows the day/exercise split without the photographs.*

## **DAY 1.**

### Exercise 1: **DEADLIFTS.**

Sets: 5 [2 warm-up sets, 3 work sets].

Reps: 5-8.

Rest: between sets 1 and 2, one minute; between sets 2 and 3, two minutes. Between work sets, three minutes.

### Exercise 2: **ROWS [dumbbell, barbell or cable].**

Sets: 3.

Reps: 8-10.

Rest: two to three minutes..

### Exercise 3: **PULLDOWNS or PULL-UP [pronated grip].**

Sets: 3.

Reps: 5-8.

Rest: two to three minutes.

### Exercise 4: **SHOULDER PRESS [dumbbell].**

Sets: 5 [2 warm-up sets, 3 work sets].

Reps: 5-8.

Rest: two to three minutes.

### Exercise 5: **BENT OVER RAISES [dumbbell].**

Sets: 3.

Reps: 8-10.

Rest: two to three minutes.

Notes: this can be superset with exercise 4.

## **DAY 2.**

Exercise 1: **BENCH PRESS [barbell].**

Sets: 5 [2 warm-up sets, 3 work sets].

Reps: 5-8.

Rest: between sets 1 and 2, one minutes; between sets 2 and 3, two minutes. Between work sets, three minutes.

Exercise 2: **INCLINE PRESS [dumbbell].**

Sets: 3.

Reps: 8-10.

Rest: two to three minutes.

Exercise 3: **DIPS [dip/chins station].**

Sets: 3.

Reps: 10+.

Rest: one to two minutes.

Exercise 4: **SINGLE LEG SPLIT SQUAT.**

Sets: 5 [2 warm-up sets, 3 work sets].

Reps: 5-8.

Rest: between sets 1 and 2, one minute; between sets 2 and 3, two minutes. Between work sets, three minutes.

Exercise 5: **STIFF LEGGED DEADLIFTS, HAMSTRING CURL or GLUTE-HAM RAISES.**

Sets: 3.

Reps: 8-10.

Rest: two to three minutes.

Notes: can be superset with exercise 4.