Utah Lions



High Performance Player Manual

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Gentlemen,
You are receiving this manual because you are currently being considered for Selection to the Utah Lions, a High Performance Rugby organization.
Congratulations on this achievement which is a testament to your athleticism, rugby ability, and commitment and attitude. This team competes at the Elite level in domestic and international tournaments often against US High School All Americans, Canadian Provincial rep sides, top British schools and other Elite Rugby Academies in the US.

The following Manual is meant to assist you in your development as a player. All aspects of being an elite rugby player are important (strength and conditioning, nutrition, mental skills, skill development and tactical knowledge). If you want to achieve the goal of making the National Team, we hope you continue to work hard and develop as a player in all these aspect. We hope this information will serve to help you become the best player you can be, and we look forward to seeing on our team and in our tours this year!

Regards,

Michael Cressler
Utah Lions: Head Coach
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Age Grade Player National Team Criteria

This sheet outlines what we are looking for in players as selection criteria toward making the age grade national teams. These are the characteristics that we look for in players to select and if you desire to be an Lion you should be able truthfully answer 'yes' to all of these questions.

- **Athletic Ability**: Are you strong, explosive, quick and fast, and do you work hard on your strength and conditioning levels to maximize your abilities in these areas?

- **Skill Level and Tactical Knowledge**: Do you have the required skill levels to play the game at the elite level? This includes general skills required of all players (passing, catching, tackling, rucking, etc) and position specific skills (kicking, jumping, throwing, etc)?
  Do you understand the game as a whole tactically and do you fit into your team's philosophy and game plan, making those around you better and playing within a system? Are you a student of the game, striving to always learn and improve?

- **Commitment/Attitude**: Are you committed to learning, improving and developing as a rugby player? Do you constantly give maximum effort and focus in training, games, meetings and all elements of your rugby? Are you motivated and willing to put in extra time and effort to develop yourself to be the best athlete and skilled rugby player you can be?

- **Coachability:** Are you coachable and willing to take on board constructive criticism to help you improve? Do you have the desire, to listen, learn and pay attention to constantly improve in all facets of the game? Do you actively seek out advice and knowledge from your coaches and peers?

The basics of strength training for rugby.

Jeremy Bettle, PhD ABD, CSCS.
Pacific Region Strength & Conditioning Coach

Overview

When training for rugby it is important to consider the predominant physical action that takes place in almost every activity in the game. This is extension of the ankle, knee, and hip with force transferred through the shoulder. This action is used for tackling, scrummaging, rucking, mauling, accelerating, jumping, and lifting! This gives us an idea as to which muscle to strengthen.



The muscles that make this happen are those in the rear of the body (posterior chain). These muscles are the hamstrings, glutes and lower back. The **core lifts** in your strength training programs will focus on these muscles.

Core Lifts

Squat: squat variations that take the hips at least parallel with the knee are an essential part of any program. Follow the directions below to perform squats:

- Place the bar on the traps just above the shoulder blades. Do not put the bar too high up on to your neck. Concentrate on squeezing the shoulder blades together. And squeeze the bar like you are trying to bend it over your back.
- Stand with your feet at least shoulder width apart. Feet straight ahead or slightly turned out if you are not flexible enough.
- Bend at the hips first. Keeping your back straight, stick your butt back like you are going to sit on a chair placed 1 foot behind you.
- Sit down until your hips are parallel with your knee. Do not let your knees go in front of your toes and keep your weight on your heels. Keep your knees out, do not allow them to collapse!
- Keep looking up and drive through the heels to stand up again, keeping the back straight.

Dead-lift: The dead lift will increase you ability to overcome a static start position. This is important in activities such as the engage in a scrum or first step acceleration in defense.

- The technique for this is very similar to the squat.
- Place the toes under the bar squat to the bottom position of your squat. Your grip should be slightly wider than shoulder with.
- Squeeze your shoulder blades, look up, and, keeping your back straight and chest up, drive through the heels to the upright position.
- The bar should remain close to your body at all times.
- Lower the bar in the same manner as for the lowering portion of the squat exercise, starting by bending at the hips.

Hang Clean

- **Technique is everything in this lift. I would seek out a qualified instructor in your area to teach you how to perform this lift correctly. You will be ineffective in this lift if you have weak glutes, hamstring, and lower back so you should focus on strengthening these first!**
- These lifts are good however in that they force you to recruit the fast twitch muscle fibers that make us more explosive. This is because you can only perform this lift if you do it fast!
- Pick up the bar as described above in the dead lift. From the upright position quickly descend until the bar is just above your knee-caps, again, descend as described for a dead lift by sticking your butt out first.
- Without pausing in the bottom position drive the hips forward and extend through the ankle and knees as though you are trying to jump through the ceiling. Simultaneously you should first shrug the bar, then continue its upward momentum by performing an upright row.
- In this action, the elbows should end up above the shoulders. Do not try to curl the bar.
- When the bar reaches its top point, you should 'snap' the elbows under the bar and drop your body beneath the bar so that you catch the bar in a front squat position.
- Stand up with the bar as described for the squat.

Supplemental lifts

The supplemental lifts are those used to compliment the core lifts. They work to fill the gaps not covered by the big three lifts. For lower body day these may be unilateral movements such as lunges or step-ups, for upper body lifts these may be pull-ups or shoulder presses.

Body Composition and Performance

Body composition has a dramatic effect on all aspects of your performance. Many factors in rugby are reliant on outstanding relative body strength, meaning your strength in relation to your body weight.

If you have high body fat then you cannot have high relative body strength. This will negatively affect your endurance, acceleration, top speed, power. Putting this into practical terms, you will not be able to last a full 80 minutes, you will not be able to get off the line in defense, or accelerate through a gap in attack, you will not be able to support a team mate who makes a break, and you will not be able to jump as high for a ball in the lineout or in open play. Bottom line? You will never play for the eagles if you have too much body fat!

You can have a big impact on your body composition by following the nutritional guidelines set out and sticking to a lifting and conditioning program!

For more information visit www.usarugby.org and click the Rugby Fitness link on the left hand side.

USA Rugby Age Grade
Strength and Conditioning Program

The following is a flexible 10 week strength and conditioning program that includes strength training, speed development, and conditioning program. Here is an example weekly workout schedule for the 10 week progression.

Weeks 1-10

	AM	PM
MON	CONDITIONING	WEIGHTS 1
TUE	OFF	SPEED 1 & TRAINING
WED	CONDITIONING	WEIGHTS 2
THURS	FLEXIBILITY	SPEED 2 & TRAINING
FRI	REST	WEIGHTS 3
SAT	REST	GAME
SUN	RECOVERY SWIM FLEXIBILITY	REST

This can be flexible with your commitments and it is fine to do 2 session in the morning or evening depending on what you have going on in your life!

- For the Speed and Conditioning Sessions there are a list of various workouts below. Vary your work outs per week and never do the same workout twice in the same week.
- For more information visit the rugby fitness page at www.usarugby.org and always consult with a Certified Strength and Conditioning Coach if you have questions about how to perform an exercise.
- For Flexibility sessions complete a dynamic and static stretching session, or attend a yoga or pilates class.
- For Recovery Swim: Swim in a pool for 400 meters using various strokes and incorporating both your arms and your legs in the movements.

ALWAYS STRETCH AND HYDRATE BEFORE, DURING, AND AFTER WORKING OUT

Strength Program

Safety is always first with strength and conditioning. Before starting this program ensure that you are familiar with the exercises and can practice them safely. It is recommended that you first consult with a Certified Strength and Conditioning Coach (CSCC) before beginning this or any program.

Each session should be started with 15 minutes warming up. This should include both dynamic and static stretching.

Monday Exercise	Reps	WT	Reps	WT	Reps	WT	Reps	WT
Max Effort upper body								
Wk 1-4: BB bench press Wk 5-8: BB Floor press Wk 9-10: Close grip bench	8 8 8 8		8 8 8 8		6 6 6 6		5 5 5 5	
Wk 1-4: push-ups Wk 5-8: incline DB Chest press Wk 9-10: Swiss ball DB chest press	max max		max max		max max		max max	
Wk 1-4: BB bent over row Wk 5-8: DB bent over row Wk 9-10: Seated cable row **SUPERSET WITH**	12 12 12 12		12 12 12 12		10 10 10 10		10 10 10 10	
Wk 1-4: Rear delt flyes Wk 5-8: Cable scarecrows Wk 9-10: Face pulls	12 12 12 12		10 10 10 10		8 8 8 8		10 10 10 10	
Wk 1-4: Prone V's Wk 5-8: Lateral raise Wk 9-10: Upright row	12 12 12 12		10 10 10 10		12 12 12 12		12 12 12 12	
Wk 1-4: Zottman curls Wk 5-8: BB biceps curls Wk 9-10: DB biceps curls	10ea 10ea 10ea 10ea		12ea 12ea 12ea 12ea		8ea 8ea 8ea 8ea		10ea 10ea 10ea 10ea	

- BB Floor press: set up the spot bars on a squat rack as low as they will go. Lay on the ground under the bar and perform bench press with regular technique. Lower the bar to the ground, pause for a second then explode up.

- Cable scarecrows: take a cable in each hand, standing back from the machine. Keeping arms straight pull the cables back squeezing the shoulder blades so you finish in a cross position. Pause for a second and bring them back to the start position.

- Facepulls: with a cable attachment at face height (with a rope attached) grab the rope and pull it towards the bridge of your nose. Your hands should reach back as far as your ears at least. Pause for a second then release.

- Prone V's: lay face down on a slightly inclined bench, weights should be hanging directly below the shoulders with thumbs pointing out to make a V. Follow the line of the thumbs raising the weights so the arms are parallel with the body.

- Zottman Curls: Start with the weights down by your side, thumbs pointing forward. Rotate the weights as you lift them together so that your palms face your body. At the top turn your hands so the palms face away from the body and slowly lower the weights.

Wednesday Exercise	Reps 1	WT	Reps 2	WT	Reps 3	WT	Reps 4	WT
Max effort lower body								
Wk 1-4: Box squats Wk 5-8: Back Squats Wk 9-10: Front Squats	10 8 6 5		10 8 5 4		10 8 5 4		10 6 5 3	
Wk 1-4: Reverse Lunge Wk 5-8: BB Step up Wk 9-10: Walking lunge	12 12 12		12 12 12		10 10 10		10 10 10	
Wk 1-4: Ball Hamstring curls Wk 5-8: Glute ham raise Wk 9-10: RDL	10 10 10		10 10 10		12 12 12		12 12 12	
Ball crunch Superman Reverse crunch (Perform as circuit w/no rest)	12 12 12 12		15 15 15 15		12 12 12 12		20 20 20 20	

- Box squats: Set a box or bench so that when you sit on it your thighs are parallel with the ground. After lifting the weight from the rack walk back so the box or bench is directly between your legs. Bending first at the hips, push the hips back keeping the chest and head up. Lower all the way to the bench and explode up. The rep doesn't count unless you sit on the box!

- Reverse lunge: with barbell on your back or DBs in your hands, start by bending at the knee, pushing the knee forward and the hips back. Lower your body so that you have a vertical line from your toe through your knee and into your chest. You should lower until your front thigh is parallel with the floor with little to no weight on you back leg. Drive up through your heel to the upright position and repeat on the same leg.

- Glute ham raise: kneel on a mat keeping your torso upright. Have a partner hold your feet or trap them under a heavy bar. Maintaining tight core and hips lower yourself forward as slowly as possible without bending at the hips. You are trying to touch your chest to the ground under control. FYI, you will NOT get there! At the point when you cannot hold it fall forward catching yourself in the pushup position, push yourself back up explosively while simultaneously pulling with your hamstrings, again, without bending at the hips. Repeat. It is normal to get cramps in the calves and hamstrings when performing this exercise, stretch them out and keep going! You will be sore when you first start doing these.

    - RDL: Romanian Dead Lift. Standing upright holding a bar in front of your body, slightly bend your kneed and fix them in this position. Bending only at the hips, lean forward until the bar is roughly at the mid point in your shin or until the weights touch the floor. Keep your back perfectly flat with chest up throughout this movement to avoid injury! Drive back up to the upright position using the glutes and hamstrings.

Friday Exercise	Reps 1	WT	Reps 2	WT	Reps 3	WT	Reps 4	WT
Repetition upper body								
Wk 1-4: DB incline chest press Wk 5-8: Supine row Wk 9-10: Chin ups (assisted if necessary)	12 12 12		12 12 12		12 12 12		12 12 12	
Wk 1-4: J pulldowns Wk 5-8: Chin-ups (see above) Wk 9-10: Lat pulldowns **SUPERSET WITH**	10 10 10 10		10 10 10 10		12 12 12 12		8 8 8 8	
Wk 1-4: face pulls Wk 5-8: rear delt flye Wk 9-10: Prone shoulder press	10 10 10 10		10 10 10 10		12 12 12 12		12 12 12 12	
Wk 1-4: BB Shoulder press Wk 5-8: Upright row Wk 9-10: lateral raise	12 12 12 12		10 10 10 10		10 10 10 10		8 8 8 8	
Wk 1-4: DB shrugs Wk 5-8: BB shrugs Wk 9-10: DB incline shrugs **SUPERSET WITH**	10 10 10		10 10 10		8 8 8		8 8 8	
Wk 1-4: Triceps pulldown Wk 5-8: Skull Crushers Wk 9-10: Close grip push ups	15 15 15		12 12 12		18 18 18		20 20 20	

- J-pulldowns: kneeling in front of a high cable pulldown (rope attachment), keeping the arms straight pull the hands down towards the ground. When they are level with your belly button row the rope directly in towards the body bending at the elbows as if you were performing a cable row. Straighten the arms again and raise the weight.

Speed Sessions

Each session should be started with 15 minutes warming up. This should include both dynamic and static stretching and some run throughs also. Make sure you are ready and comfortable to sprint when the session begins. I'd suggest that you wear molded cleats and perform on grass to save your joints as much as possible. Finish with a static stretch and re-hydrating.

It is important when training speed that you always put in a maximal effort with every repetition, and that there if no fatigue during the workout. The rest periods are long for a reason, adhere to them! If you are not fully recovered then your muscles cannot produce their maximum force and speed and you end up training them to contract slower. The full rest period allows you to be completely recovered between repetitions. NOTE: you should not feel tired after this session, it is not conditioning!

Session 1.

- ✯ Dynamic warm-up
- ✯ 3 x 60m stride outs
- ✯ Sprint 1 from normal position, sprint 2 and 3 get-ups from floor, sprint 4 from normal position. **All sprints have a walk back recovery.**

Props, second rows	Hookers, backrow, scrum halves	Flyhalf, centers	Wings, fullback
6 x 5m sprint 6 x 10m sprint 6 x 15m sprint (start with a 5m lateral shuffle, then sprint 15m forward) 6 x 50m sprint	8 x 10m sprint 6 x 30m sprint (start with 5m lateral shuffle, then sprint 30m forward) 6 x 60m sprint	8 x 10m sprint 6 x 20m sprint Sprint forward 5m, immediately sprint 5m backwards=1 rep, complete 6, rest 30secs, complete 6 reps.	8 x 10m sprint Run in a curved formation starting on the 15m line and finishing on the touchline – 20m in length, complete 5ea way. 6 x 15m

Session 2

- ✯ Dynamic warm-up

Props, second rows	Hookers, backrow, scrum halves	Flyhalf, centers	Wings, fullback
6 x 40m, 6 x 30m 6 x 10m 8 x 5m, then 45° sprint off for 10m all from the get up position, 4 ea way.	4 x 10m 4 x 20m 4 x 40m 4 x 70m 8 x 5m, then 45° sprint off for 10m all from the get up position, 4 ea way.	4 x 5m 4 x 30m 4 x 40m 4 x 60m 8 x 5m, then 45° sprint off for 10m, 4 ea way.	3 x 30m 3 x 20m 3 x 50m 3 x 10m 6 x 15m, then 45° sprint off for 15m, 3 ea way.

Session 3

Single leg bounds (hopping)- Hop as far as you can in 3 hops, going again immediately on contacting the ground. The aim is to get as far as possible on your 3 hops with a limited and light contact with the grass between hops. Repeat on other leg. Repeat 4 times.

Speed with different start positions – Set cones a 0 and 10 metres and 15 metres.

- Fast feet on spot accelerate through 10. Repeat again.
- Stationary at start with feet in line with each other, accelerate through 10. Do once.
- Fast feet on spot, accelerate hard and aim to stop dead on 10 metre mark with feet in line. Repeat again.
- Jog along the start line facing upwards, then acclerate hard through 15. (What I mean by this is, imagine you are jogging along the tryline but facing the touchline, then accelerating hard to the 22m). Repeat but facing the other way when jogging. You should therefore accelerate of opposite feet each time.
- Facing the wrong way, turn and accelerate hard throught the 10. Repeat but turn the other way.
- Any stance you like, accelerate and sprint as hard as you can through the 15.

Session 4

- Dynamic warm-up
- 2 x 60m stride outs
- ***All sprints have a walk back recovery***
    - 4 x 10 + 75m (10m fast feet and go)
    - 4 x 10 + 50m (10m fast feet and go)
    - 4 x 10 + 30m with ball (10m fast feet and go)
    - 4 x 10m with ball
    - 4 x 5m with ball

Complete the first sprint of the 4 reps in each set from a normal standing position, then rep 2 and 3 from "off the deck" position, and sprint 4 from the normal position. The 10 meter and 5 meter sprints are aimed purely at "explosion" type effort.

Session 5:

Hill Sprints:

Find a low grade incline street/hill. Complete 10 x 50 meter sprints up the hill with a slow walk back recovery

Session 6:

Ball Sprints:

Ball in two Hands at all times:

Double Leg Hops/Bounds as far/fast as possible for 20 meters; repeat 6x with walk back recovery

Single Leg Hops: Same as above but for 10 meters; 4x on each leg

4x 10 meter sprints with ball in two hands

6 x 25 meter sprints with ball in two hands

Conditioning Sessions

Each session should be started with 15 minutes warming up. This should include both dynamic and static stretching and some run throughs also. Finish with a static stretch and re-hydrating.

Session1

Running: 3mins on (75%), 3 mins off' (50%) continuous for 18mins. (thus 3 full reps of 3 on and 3 jog) Complete rest 3 mins (walk). 2 mins on (80%), 2 mins off'(50%) for 12 mins continuous. Complete rest 2 mins (walk). 1 min on (85%), 1 min off (50%) for 8 mins continuous. Warm down and stretch

Session 2

Row 6 reps of 3mins with 2 mins recovery between reps. Aim to keep rate below 1.50/500m ideally below 1.48/500m. Try to row steady.

Session 3

Running: **400m and 300m** session. 4 x 400 running every 3mins 30sec. (Therefore this time includes the time it takes you to run 400m) Run hard but not flat out - 90%. Rest 4 mins. 5 x 300m running every 2min 45 sec. Warm down, stretch, re hydrate.

Session 4

Running: Simple out and back run. Run out from your start point for 20mins. Having run for 20mins return to your start point via the same route as fast as possible aim for a maximum of 17mins.

Session 5

Row: 8 reps of 2 mins with 2 mins recovery between reps. Keep rate below 1.48/500m if poss, 1.45/500 is a good level to aim for.

Session 6

Running: 300m and 200m session. 4 x 300m running every 2mins 45. 4 min complete recovery. 6 x 200m with 2 mins between reps. Aim to run hard but not yet sprinting. Stay between 85 and 90% of max effort.

For those not using a track:
200m = 25sec hard run, 2 lengths of rugby field
300m = 45 sec hard run, lap of field excluding dead ball area.
400m = 65sec hard run, lap of field as above plus one side

Session 7

150m Shuttles:

Place 2 markers 25m apart and sprint 6 times between them. This represents 1 repetition of a 150m shuttle.

Complete 3 sets of 5 reps each, with 30secs in between reps and 90secs in between sets.

Session 8

15m Shuttles:

1. Lateral Shuffle from sideline to 5m and back
2. Turn and sprint to 15m.
3. Walk back to sideline as recovery between reps.
4. Repeat this 4 x 4 with 1min between sets.

Sprints:

Backs: 80m run. Accelerate throughout with a deliberate step/swerve/change of direction every 20m. Increase speed aggressively every 20m. 3 x 3 with a slow jog back recovery: 1 min in between sets.

Forwards: 40m run. Accelerate throughout with a deliberate step/swerve/change of direction every 10m. Increase speed aggressively every 10m. 3 x 4 with a slow jog back recovery: 1 min in between sets.

Session 9

5-25 shuttle run – set a course with markers, with a marker on 5m, 10m, 15 15m, 20m, and 25m. Start by sprinting from 0-5 and back, 0-10m and back, and so on continuously for 30secs, rest for 30secs, complete 6 reps = 12mins in total. 6 minutes of work, 6 minutes of rest.

Session 10

Bike: On a stationary Bycicle: Sprint (flat out as hard as you can for 30 seconds) then relax and peddle slowly without stopping for 30 seconds. Continue for 30 minutes total

Session 11

80m x 16 running every minute (on the minute) back and forth

Session 12

Swim: Swim 25 meters (any stroke type). Rest same amount of time it takes to reach 25 meters. Repeat continuously for 30 minutes.

Session 13

60m x 16reps running every 1min. Aim to complete run in 9secs and therefore you will rest for about 50secs. Run flat out each rep.

Session 14

120m x 12 with walk back recovery

Strength and Conditioning Benchmarks

Note: These are best practice scores that players in this age range should aspire toward and if they reach it try to surpass it.

Age Grade Fitness Testing: Desired Tests
Vertical Jump (Standing Broad if unavailable) : Strength and Explosive Power
40 Meter sprint : Speed
1K Shuttle: Fitness

NOTE: With weight training exercises: ALWAYS WORK WITH A C.S.C.S *(Certified Strength and Conditioning Coach) to be properly educated on how to safely and correctly perform each of these exercises* ***BEFORE*** *attempting. They are complex movements that* ***REQUIRE*** *correct form to be performed safely.*

See Benchmarks Below:

USA Rugby Age Grade Testing Benchmarks

Collegiate All Americans

		Vertical Jump		10 Meter		40 Meter		1k Shuttle	
		Elite	Competitive	Elite	Competitive	Elite	Competitive	Elite	Competitive
Forwards	Props	29	25	1.75	1.85	5.3	5.5	3:45	4:00
	Back 5+ Hooker	30	26	1.7	1.82	5.2	5.4	3:35	3:50
Backs	Inside Backs	32	28	1.7	1.8	5	5.25	3:35	3:50
	Deep 3	33	29	1.65	1.75	4.9	5.1	3:30	3:45

Lift 1 Rep Max: Squat (2x Body Weight); Clean (1.2x Body Weight); Bench (1.5x Body Weight)

U20's Or U19s

		Vertical Jump		10 Meter		40 Meter		1k Shuttle	
		Elite	Competitive	Elite	Competitive	Elite	Competitive	Elite	Competitive
Forwards	Props	28	25	1.77	1.87	5.35	5.6	3:50	4:05
	Back 5+ Hooker	29	26	1.72	1.85	5.25	5.5	3:40	3:55
Backs	Inside Backs	31	27	1.72	1.82	5.1	5.35	3:40	3:55
	Deep 3	32	28	1.67	1.77	5	5.2	3:35	3:50

Lift 1 Rep Max: Squat (1.8x Body Weight); Clean (1x Body Weight); Bench (1.4x Body Weight)

High School All Americans Or U17s

		Vertical Jump		10 Meter		40 Meter		1k Shuttle	
		Elite	Competitive	Elite	Competitive	Elite	Competitive	Elite	Competitive
Forwards	Props	27	24	1.8	1.9	5.4	5.7	3:50	4:10
	Back 5+ Hooker	28	25	1.75	1.87	5.3	5.55	3:45	4:00
Backs	Inside Backs	30	26	1.75	1.85	5.15	5.4	3:45	4:00
	Deep 3	31	27	1.7	1.8	5	5.25	3:40	3:55

Lift 1 Rep Max: Squat (1.6x Body Weight); Clean (.8x Body Weight); Bench (1.3x Body Weight)

Testing Protocols:

Vertical Jump

Purpose: This is the preferred measuring tool of explosive power. If a vertical jump can't be tested for, please test for a standing broad jump. Only one of these tests are needed.

Equipment Required: Vertical Jump Mat or Vertec vertical jump measurer (both can be found at a performance gym).

Description/procedure:
Using the Pad: Stand on pad with two feet flat. The athlete may swing there arms. A two-foot take-off and landing is used, with swinging of the arms and bending of the knees to provide upward drive. The subject attempts to jump as far up as possible, landing on both feet. Two attempts are allowed.

Using the Vertec: Stand on pad with two feet flat directly below vertec measuring. Extend arm and hand to maximum reach and measure vertical reach. The athlete may swing there arms. A two-foot take-off and landing is used, with swinging of the arms and bending of the knees to provide upward drive. The subject attempts to jump as far up as possible, (not smacking the vertec with a swinging arm, but jumping up, reaching vertically and taping the vertec measuring bars) landing on both feet. Two attempts are allowed.

Standing Broad Jump

Purpose: to measure the explosive power of the legs

Equipment required: tape measure, to measure distance jumped, non-slip floor for takeoff, and soft landing area preferred. The take off line should be clearly marked.

Description / procedure: The athlete stands behind a line marked on the ground with feet slightly apart. A two-foot take-off and landing is used, with swinging of the arms and bending of the knees to provide forward drive. The subject attempts to jump as far as possible, landing on both feet without falling backwards. Three attempts are allowed.
Measurement is taken from the back most heal. The tape measure is secured to the ground, with the 0cm mark on the start line and ran down the length, which the players will jump right next to. Measured in meters and centimeters.

40m Sprint

Purpose: The purpose of this test is to determine acceleration, maximum running speed.

Equipment required: measuring tape, cones, timing gates (if possible), stopwatches and 3 people recording.

Description / procedure: The test involves running a single maximum sprint over a set distance, with time recorded. The test is conducted over 40 meters (44 yards). The starting position will be standardized, starting from a stationary position with a foot behind the starting line, with no rocking movements, no 3 or 4point stance. If you have the equipment (e.g. timing gates), you can measure the time to run each split distances (10, 40m) during the same run, and then acceleration and peak velocity can also be determined. Two attempts will be allowed. 3 timers will be used and mean time used if no timing gates. Stopwatches will start on the athletes first movement, index fingers will be used and not thumbs.

1K Shuttle

If the beep test can not be performed, please perform the 1K shuttle test:

The test is performed by running a series of shuttles. The player begins at one try line, runs to the 22 and back to the try line, half way and back to the try line, to the far 22 and back to the try line, and to the far try line and back to the try line. He repeats this process again running a total of 1000 meters without stopping. The field must be marked properly (100 meters/110 yards).
If you are using a football field, start at one goal line, run to the near 25 yard line and back, the far 45 yard line and back, the far 15 yard line back, then to the back of the far end zone and back (repeat twice).

NUTRITION: STOP LIGHT CHART

FOOD CLASS	PROTEIN	VEGETABLES & STARCHES	FRUITS & SUGARS	FATS
FIRST CLASS Ideal foods that should be eaten at any time in accordance with your nutrition plan	• Grass-fed beef • Skinless chicken breast • Lean turkey • Low-fat, plain (Greek) yogurt • Low-fat cottage cheese • Salmon/tuna/mackerel/herring • Free range omega-3 eggs (any style) • Venison/buffalo • Protein powders with whey/milk concentrates and no added sugar/fat	• Mixed beans (kidney, white, etc. • Broccoli • Onions (red/white) • Chickpeas (hummus) • Tomatoes • Mushrooms • Green/red/yellow peppers • Asparagus • Zucchini • Whole oats • Flaxseed • Quinoa • Lentils • Stone-ground whole wheat bread (at least 3 grams of fiber per slice)	• Apples • Mixed berries (frozen or fresh) • Grapes • Plums • Strawberries • Oranges • Grapefruit • Cherries • Figs • Canned pumpkin (no added sugar)	• Olives • Extra virgin olive oil • Fish oil supplements • Avocadoes • Ground flaxseeds • Canola/sunflower oil • Almonds • Hazelnuts • Cashews • Sunflower seeds • Pumpkin seeds • Peanut butter
SECOND CLASS Foods that are best eaten at specific times or if First Class foods are unavailable	• Skim milk • Turkey pepperoni • Lean red meat • Deep sea fish (swordfish) • Edamame/tofu/miso • Shrimp/scallops • Protein supplements with sugar/fat (ie. Muscle Milk, protein bars)	• Long grain rice • Corn • Potatoes (ideally boiled, not mashed) • Sweet potatoes • Popcorn • Breads made with whole wheat flour (bagels, pancakes, etc.) • Pizza • Pasta	• Bananas • Pineapples • Raisins • Melons • Watermelon • 100% pure fruit juice • Carb drinks like Gatorade • Carb/protein drinks like Accelerade • Anything that contains maltodextrin, dextrose, or glucose	• Butter • Whole milk • Coconut oil • Palm kernel oil • Cream • Mayonnaise • Cheeses
NO CLASS *Avoid at all costs*	• Fast food meats • Non-lean ground beef • Oysters/clams • Hot dogs • Processed cold cuts • Any meat that's been fried (i.e. chicken tenders, fried fish, fried	• Waffles/muffins/pancakes/bagels/bread made with white flour • White or sticky rice • Any fried dough or potato (doughnuts, funnel cake, French fries)	• Anything with High Fructose Corn Syrup (HFCS) and/or sucrose • Sodas • Fruit juices with added sugar • Breakfast cereals • Candy bars	• Anything with "hydrogenated" or "partially hydrogenated vegetable oils" (even if it says zero trans fats) • Dry soup powders • Pastries

PRINT AND POST UP!!!

USA Rugby: Nutritional Camp Guidelines

10 Rules:

1. Eat every 2-3 hours, regardless of hunger levels
2. Get lean protein at every meal
3. Eat healthy fats every day. Avoid *all* hydrogenated (trans) fats and fried foods…*all* the time.
4. Pre-, during, and post-training/game nutrition is actually one big meal, and it is the most important meal of the day
5. Go to bed, but not without protein. This includes sleep at night, as well as naps during the day (naps are to be encouraged).
6. Eat vegetables at every opportunity.
7. Drink water all the time. Drink green tea some of the time. Drink anything with high fructose corn syrup NONE of the time.
8. Eat these foods at least 3 times per week/at camp:

- **Lean red meat**
- **Salmon**
- **Omega 3 eggs**
- **Low fat plain yogurt**
- **Protein supplements**
- **Spinach**
- **Tomatoes**
- **Cruciferous vegetables (broccoli, cauliflower, cabbage)**
- **Mixed berries**
- **Oranges**
- **Mixed beans**
- **Whole oats**
- **Mixed nuts**
- **Avocadoes**
- **Extra virgin olive oil**
- **Green tea**
- **Liquid exercise drinks for pre and post-training/game nutrition (should have carbs and protein)**

9. Food first. Use supplements intelligently, not as a crutch or to make up for inattention to diet.
10. Food is a drug, and sports nutrition is a performance enhancing drug. Therefore, accept that being professional about rugby means being professional about nutrition. Folks who eat to beat and focus on what they do to their insides are usually pleasantly surprised by what they see happening on the outside.

- For more information, to provide feedback or to ask a question on nutrition/supplements, go to http://hpnutrition.wordpress.com
- For information on combining protein, carbs, and fats into meals, see this free "recipe finder" at Runner's World: http://www.runnersworld.com/topic/0,7122,s6-242-303-0-0,00.html
- For direct questions, email Adam at highperformancenutrition@gmail.com

[1] Adapted from: Competitive Sports Nutrition: Do you eat? Or do you Eat to Beat? © Adam Russell

Meal Guidelines: these are three tables that help guide your decision-making and focus for each part of the day depending on whether you are training, playing, or recovering/preparing. Blue days are training days; Red days are game days; and White days are either recovery days or preparation days (getting ready for a game the next day). If necessary, you can re-arrange the schedule, but not if it violates the 10 rules.

TRAINING DAY			
TIME	PURPOSE	FOCUS ON	AVOID
Breakfast	Halt muscle loss due to sleep; fuel up and rehydrate; align circadian rhythms to local time	• **Whole grains and oatmeal** • **lean protein like eggs, yogurt, cottage cheese** • **water/green tea;**	Foods that are high in both fat *and* sugar; fried foods; foods high in salt; not getting enough protein (can lead to blood sugar crash)
Training	Provide energy, maintain hydration, blunt break down of muscle tissue	• **A 6% solution with electrolytes, sugars and amino acids** • **Drinking at every opportunity (even if only a sip)**	Powerbars, powergels, or drinks that are above 6% (hard to absorb and can dehydrate)
Post-training (within 15 minutes of end of training)	Restore muscle fuel, provide tools for body to rebuild tissue, re-hydrate	• **Water** • **Recovery shake with carbs/amino acids, like chocolate milk or protein in Accelerade/Gatorade**	Fat and high salt, which slow absorption of needed nutrients
Lunch	Continue to recover; take advantage of anabolic environment from training stimulus	• **Full spectrum of carbs, protein, and good fats** • **Eat a "rainbow" of vegetables, grains, lean protein, fruits, and good oils/butter** • **Water/green tea**	Not getting enough protein; foods that are high in fat and sugar; fried foods; failing to drink enough water
Training	Provide energy, maintain hydration, blunt break down of muscle tissue	• **A 6% solution with electrolytes, sugars and amino acids** • **Drinking at every opportunity (even if only a sip)**	Powerbars, powergels, or drinks that are above 6% (hard to absorb and can dehydrate)

TRAINING DAY			
TIME	PURPOSE	FOCUS ON	AVOID
Post-training (within 15 minutes of end of training)	Restore muscle fuel, provide tools for body to rebuild tissue, re-hydrate	• **Water** • **Recovery shake with carbs/amino acids, like chocolate milk or protein in Accelerade/Gatorade**	Fat, fried, and high salt, which slow absorption of needed nutrients
Snack (within 90 minutes of end of training)	Keep blood sugar levels steady, take advantage of training stimulus, and avoid over-eating or making poor choices at dinner	• **High protein** • **Complex carbs** • **Good fats (mayo, butter, oils)** • **Nuts, sandwiches, smoothies, etc.**	Fat, fried, and high salt, which slow absorption of needed nutrients
Dinner	Get body ready to sleep and provide nutrients for recovery; rehydrate; bolster mood	• **Full spectrum of carbs, protein, and good fats** • **Eat a "rainbow" of vegetables, grains, lean protein, fruits, and good oils/butter** • **Water/green tea**	Typical American mistakes at dinner, such as eating too much meat at expense of vegetables/fruits; avoid fried foods and foods high in fat *and* sugar;
Pre-bed snack	Enhance sleep, provide nutrients for body to assimilate when sleeping to enhance recovery	• **Protein** • **Small number of good carbs** • **Good fats** • **Peanut butter, cottage cheese with some nuts, lean meat, protein shake with flax oil**	High sugar/carbohydrate foods like pizza, fries, etc.

GAME DAY			
TIME	PURPOSE	FOCUS ON	AVOID
Breakfast	Halt muscle loss due to sleep; fuel up and re-hydrate; align circadian rhythms to local time	• **Whole grains and oatmeal** • **lean protein like eggs, yogurt, cottage cheese** • **water/green tea;**	Foods that are high in both fat *and* sugar; fried foods; foods high in salt; not getting enough protein (can lead to blood sugar crash)
Snack	Provide energy, maintain hydration, enhance focus	• **Small portions of carbs/protein** • **Green tea/water**	Fat and high levels of sugar
Pre-game	Fuel and hydration	• **Small portions of foods that you are familiar with** • **Drinking enough liquid to have clear/straw colored piss**	Fat and high salt, which slow absorption of needed nutrients; foods you haven't tried before (like Uruguayan butter);
Warm Up	Fuel and hydration	• **A 6% solution with electrolytes, sugars and amino acids** • **Drinking at every opportunity (even if only a sip)**	Passing up opportunities to fuel/hydrate; overly large portions of high sugar foods like gummy bears or Jaffa cakes;
Game	Provide energy, maintain hydration, blunt break down of muscle tissue	• **A 6% solution with electrolytes, sugars and amino acids** • **Drinking at every opportunity (even if only a sip)**	Powerbars, powergels, or drinks that are above 6% (hard to absorb and can dehydrate)
Post-Game (within 15 minutes	Restore muscle fuel, provide tools for	• **Water** • **Recovery shake with carbs/amino acids, like chocolate milk or protein in**	Fat, fried, and high salt, which slow absorption of needed nutrients. Avoid

GAME DAY			
TIME	PURPOSE	FOCUS ON	AVOID
after game)	body to rebuild tissue, re-hydrate	**Accelerade/Gatorade**	alcohol.
Snack (within 90 minutes after game)	Keep blood sugar levels steady, take advantage of training stimulus, and avoid over-eating or making poor choices at dinner	• **High protein** • **Complex carbs** • **Good fats (mayo, butter, oils)** • **Nuts, sandwiches, smoothies, etc.**	Skipping this. This is a VERY important time to eat. Avoid alcohol.
Post-game Meal	Get body ready to sleep/drink beer and provide nutrients for recovery; rehydrate; bolster mood	• **Full spectrum of carbs, protein, and good fats** • **Eat a "rainbow" of vegetables, grains, lean protein, fruits, and good oils/butter** • **Water/green tea til your piss is clear again**	Typical American mistakes at dinner, such as eating too much meat at expense of vegetables/fruits; avoid fried foods and foods high in fat *and* sugar Avoid alcohol until the end of the meal and you have pissed clear at least once
Pre-bed snack	Enhance sleep, rovide nutrients for body to assimilate when sleeping to enhance recovery	• **Protein** • **Small number of good carbs** • **Good fats** • **Peanut butter, cottage cheese with some nuts, lean meat, protein shake with flax oil**	Foods high in sugar *and* fat like pizza, ice-cream, fries, burgers, etc.; fried foods

Recovery/Preparation Day			
Time	Purpose	Focus on	Avoid
Breakfast	Halt muscle loss due to sleep; fuel up and re-hydrate; align circadian rhythms to local time	• **Whole grains and oatmeal** • **lean protein like eggs, yogurt, cottage cheese** • **water/green tea;**	Foods that are high in both fat *and* sugar; fried foods; foods high in salt; not getting enough protein (can lead to blood sugar crash)
Snack	Rehydrate, provide amino acids to body to re-build tissue	• **Small portions of carbs/protein** • **Green tea/water**	Fat and high levels of sugar, and fried foods (can make inflammation worse)
Recovery session	Fuel and hydration; anti-inflammation	• **Gatorade with protein; chocolate milk** • **Drinking enough liquid to have clear/straw colored piss**	Fat and high levels of sugar, and fried foods (can make inflammation worse)
Snack	Hydration, recovery, and anti-inflammation	• **High protein** • **Complex carbs** • **Good fats (mayo, butter, oils)** • **Nuts, fruits, sandwiches, smoothies, etc.** • **Water/green tea**	Fat and high levels of sugar, and fried foods (can make inflammation worse). ***You should be pissing clear by now***
Lunch	Provide energy, maintain hydration, blunt break down of muscle tissue	• **Full spectrum of carbs, protein, and good fats** • **Eat a "rainbow" of vegetables,**	Fat and high levels of sugar, and fried foods (can make inflammation worse)

Recovery/Preparation Day			
Time	Purpose	Focus on	Avoid
		grains, lean protein, fruits, and good oils/butter **• Water/green tea**	
Snack	Keep blood sugar levels steady, avoid over-eating or making poor choices at dinner	**• High protein** **• Complex carbs** **• Good fats (mayo, butter, oils)** **• Nuts, fruits, sandwiches, smoothies, etc.** **• Water/green tea**	Fat and high levels of sugar, and fried foods (can make inflammation worse)
Dinner	Hydration, recovery, and anti-inflammation	**• Full spectrum of carbs, protein, and good fats** **• Eat a "rainbow" of vegetables, grains, lean protein, fruits, and good oils/butter** **• Water/green tea**	Fat and high levels of sugar, and fried foods (can make inflammation worse)
Snack	Get body ready to sleep and provide nutrients for recovery; rehydrate; bolster mood	**• High protein** **• Complex carbs** **• Good fats (mayo, butter, oils)** **• Nuts, fruits, sandwiches, smoothies, etc.** **• Water/green tea**	Fat and high levels of sugar, and fried foods (can make inflammation worse)

Recovery/Preparation Day			
Time	Purpose	Focus on	Avoid

Pre-bed snack	Enhance sleep, provide nutrients for body to assimilate when sleeping to enhance recovery	• **Protein** • **Small amount of good carbs** • **Good fats** • **Peanut butter, cottage cheese with some nuts, lean meat, protein shake with flax oil**	Foods high in sugar *and* fat like pizza, ice-cream, fries, burgers, etc.; fried foods

COMPETITIVE SPORTS NUTRITION

Don't eat to keep up with your competitors, eat to beat them.

Guidelines by Adam Russell (questions to highperformancenutrition@gmail.com)

"Never forget, somewhere in China a little girl is warming up with your max."
– Jim Conroy, Olympic lifting coach

Okay, so ask 100 athletes to define "sports nutrition" and you'll get a laundry list of commandments: thou shalt not eat fried foods and candy bars, thou shalt eat fruits and veggies, thou shalt drink water and Gatorade, thou shalt maybe consider a protein powder. Some of them will be right, some will be wrong, and some will be very, very wrong. But all 100 will have some opinion.

Now ask them to define the mechanisms by which these commandments actually make a difference to them. That gets a little tougher. Now you're down to maybe 50 who will give you a reasonable argument for why thou shalt not eat fried foods or thou shalt hydrate religiously or thou shalt consume Gummy Bears after training.

Now ask those 50 to describe how the sports nutrition actually gives them an edge – how it improves their performance beyond that of their competitors. Chances are you'll be down to 10 – generously – who might have an idea. They'll tell you how "sports nutrition," like Gatorade, can enhance their performance…IF their competitors don't also drink it.

Finally, ask those 10 what elite competitors might do that's different from them. Now you've got maybe one athlete who can give you an opinion – and that's probably wrong.

As athletes, we are – or at least we should be - inherently competitive. Thus, our nutrition should be geared to hand us a competitive edge over other teams, whether that's having fewer colds, not as many injuries, or recovering faster from workouts and being sharper on the day than our competition.

If your nutrition doesn't do this, then don't call it sports nutrition.

"Conventional people are roused to fury by departure from convention, largely because they regard such departure as a criticism of themselves." - Bertrand Russell

The premise of competitive sports nutrition is that the brain is the most important organ in deciding who wins and who loses in sport. I won't go into more detail here, but suffice it to say that the 3 ½ pounds of jelly-packed cells that evolved over 4 million years to end up between our ears – what we call the brain – is the master and commander of the rest of the body. It cares about itself, first and foremost, and it has its priorities, which are basically: survive. If the brain is not being optimized, then it will sabotage other systems of the body, including muscles. Muscles, by the way, which have not changed very much since they first evolved to move bodies…tells you something, doesn't it? Thus, CSN is about making the brain work optimally, which will then translate into the rest of the body performing to its competitive best. Following are 10 tips explaining the best ways to do this.

"It's never too late to be who you might have been."

- George Eliot

1. Eat every 2-3 hours, regardless of hunger.

a. How it feeds the brain: the most basic parts of the brain evolved to organize the internal world of the body relative to the external world. Along with temperature, moisture, and light, nutrition is one of the basic messages the brain receives from the world. The presence of nutrients in the blood stream – and the resulting flux of different hormones, like insulin, ghrelin, leptin, glucagons, etc. – tells the brain one of two things: things are good and we have plenty of food and resources, or things aren't great, feeding is inconsistent, resources are crap, and you might be facing a period of starvation. Three squares a day doesn't do it. The "up and down" of different hormones, along with blood sugar, scares the brain, since it requires up to 200 grams of glucose per day. Eating inconsistently tells the brain to conserve energy by slowing down, not exercising, feeling tired, etc., rather than expend it on things like building muscle or replacing muscle fuel (glycogen). Remember, the brain's priority is survival. So give it the all clear signal of routine feedings on a consistent basis. Yes, that means 6 meals a day.

b. How that optimizes your competitive edge: sending the brain clear signals means the brain, in turn, will signal the body through hormones and other messengers that it can go ahead and start building muscle, replacing muscle fuel, and recovering from exercise. In other words, the good times are here so go ahead and use some of those nutrients to improve VO2 max – we can spare the nutrients because the brain is secure and happy.

2. Get amino acids at every meal (aka lean protein).

a. How it feeds the brain: some nutritionists will tell you that a calorie is a calorie, regardless of whether it comes as fat, carbohydrate or protein. In the old manner of measuring "heat given off" – this is what a calorie measures - that's true. But recent evidence is demonstrating that nutrients are also signals to the body and brain, and that they have distinct effects of their own. Amino acids are an example. High doses of leucine, a single amino acid, appear to stimulate protein synthesis (muscle building) in cells more than other nutrients. It's very weird and research is just beginning, but what is clear is that a steady stream of amino acids helps to steady blood sugar levels, can help the brain feel at ease and, more, help signal the body to go ahead and make proteins out of the amino acids. That means more muscle, quicker recovery and increased strength.

b. How that optimizes your competitive edge: don't take amino acid supplements unless you know what you're doing, and don't overdo the protein – you don't need 300 grams/day. But you do need to eat lean protein with every meal – meat, protein shakes, cottage cheese, milk – and let the body make what it needs. The steady presence of amino acids will translate into constant resources that the body will use to enhance recovery from exercise and stress, so it will be willing to go harder and faster the next time. The best way to sabotage your competitive edge is to ask the body to compete under extreme stress and not give it resources to answer.

"The future belongs to those who prepare for it today."

3. Eat healthy fats every day – 3 grams of fish oil, 2 tbsp of flax seed oil, 2 tbsp of extra virgin olive oil, handful of almonds and other nuts. Avoid ALL hydrogenated (trans) fats – period.

a. How it feeds the brain: The brain evolved in part to coordinate movement. Species that do not move do not have brains; species with larger brains have the most sophisticated movements. In humans, directly or indirectly, the brain coordinates movement by using fats, and it will only do that as well as the tools that you give it. In some cases, fats are made into hormones and substances that communicate with distant cells in the body, telling them to operate efficiently (or not). In other cases, fats make up the insulation around brain cells that help them to communicate with each other. Feed the brain crap, like trans fats, and the brain will work at a reduced efficiency. Give it good fat, and it will improve. And the evidence is increasingly hard to ignore: "good" fats promote better brains than others – and a very lengthy body of literature is starting to prove it, so much that the British are even considering making fatty acid supplements mandatory for school kids.

b. How that optimizes your competitive edge: The right fats will translate into anabolic hormones, which help enhance performance, as well as a beefed up immune system and increased injury repair. Omega-3 fatty acids (found in fish oil) in particular have anti-inflammatory properties, while over the long term they help make up the membranes around neurons in the brain – resulting in improved reaction times, enhanced motivation, and better working memory. These are the tools of a competitive edge – but won't happen overnight. It takes weeks to months for healthy fats to be incorporated into your body and brain, so start now. The difference in a year will be remarkable, especially compared to competitors who don't do this.

"We improve ourselves by victories over ourselves.

There must be contests, and you must win."

- Edward Gibbon

4. Treat pre-, during and post-workout nutrition as the most important meals of the day, because that's when the brain is most vulnerable. Have carbohydrate/protein drinks before, during, and immediately after exercise.

a. How it feeds the brain: Exercise is good for everyone, right? Right. But it can be better for some than for others. While conditioning has a host of beneficial effects on performance, the reality is that the brain has evolved with a list of priorities – survival, first. When you place stress on your body, the brain gets nervous because you are taking it out of its comfort zone. Do everything you can to tell the brain that not only will it survive but that it can actually afford to let the body use precious nutrients to recover. Taking in carbs and protein in an easily digestible form before and after working out, while sipping a diluted carb/protein drink during exercise, has begun to show fairly remarkable effects in this regard.

b. How that optimizes your competitive edge: Studies show that if given the proper resources, the body will respond to conditioning by burning even more fat, increasing glycogen stores, building more muscle, and generally allowing the body to be "better than well." If you don't give the body these things, you will still see progress from conditioning, of course, but no more progress than anyone else. There's not much advantage to that, unless you only want to be as good as everyone else.

"The quality of a person's life is in direct proportion to their commitment to excellence, regardless of their chosen field of endeavor."

- Vince Lombardi

5. Go to bed, but not without protein.

a. How it feeds the brain: Sleep should be considered a part of "nutrition." About half an hour after you doze off, your pituitary gland releases a pulse of growth hormone that rockets around your body, telling everything to start repairing itself from the wear and tear of the day. However, if you don't have amino acids available, the brain won't prioritize physical recovery, so much as worrying about itself and vital organs (and muscle, remember, is NOT a vital organ as far as the brain is concerned). Take 20-30 grams of a slow digesting protein, like cottage cheese, chicken breast, skim milk or a protein shake, before heading to bed. That tells the brain that it's time to get to work…

b. How that optimizes your competitive edge: …which tells your body to get to work. The protein will prevent the body from "catabolizing" (or breaking down) your hard earned muscle for energy and will flood your blood stream with amino acids, using the GH to turn the amino acids into enhanced physical recovery. It's just too bad you'll be asleep and miss the "ka-ching" sound that your body will make as it detects large numbers of aminos.

"People who say that something is impossible should not get in the way of people who are doing it."

6. Eat vegetables at every opportunity.

a. How it feeds the brain: We can put a man on the moon, we can thread cameras through people's veins, and we can grow human ears on mice. Seriously. But we don't fully understand what it is about vegetables that make them so good for us. In some cases, we have a suspicion; in others we just know that they seem to work miracles. But the constituents of vegetables work on the brain and body in different and complementary ways. Tell the brain that you're getting a rich, varied diet and it will let the body know that it's getting what it needs, so the body is good to go.

b. How that optimizes your competitive edge: This will make sure you get your fiber, your phytosterols, your polyphenols, your resveratrol, your anthocyanins, your proanthocyanins, your isothiocyanates – among others – all of which provide the foundation for optimum performance through different but important mechanisms (such as providing anti-oxidants). Without them, yes, you will live – but so does everyone else. If you want to be like everyone else, you're in the wrong line of effort.

"Aspire rather to be a hero than merely appear one."

- Baltasar Gracian

7. Drink water all the time. Drink green tea some of the time. Drink anything with high fructose corn syrup (soda, Powerade) none of the time.

a. How it feeds the brain: Hydration is situated firmly in the top three priorities of the brain. If it's dehydrated, the brain's going to do everything it can to keep you from going beyond the pace of an arthritic pensioner on ice – from shutting down decision-making faculties to shifting blood flow away from the muscles and to the vital organs. So hydrating regularly tells the brain that you're taking care of it, and the neurons work faster, the hypothalamus senses a decent body temperature, and the brain gives the body a big thumbs up.

b. How that optimizes your competitive edge: Cells work best when hydrated in general (this is partly how creatine enhances performance – it sucks water into muscle cells). But for an added edge, green tea is showing some pretty remarkable qualities as well – from enhanced endurance to anti-cancer to fat-burning properties (I have the studies to show that), the polyphenols in green tea can't be beat. So have 2-3 cups a day, in between water.

c. High fructose corn syrup (HFCS) is the equivalent of giving your body an internal sunburn. No matter what industry-funded research and "meta-analyses" are invented to complicate the issue. It leaches calcium from your bones, it causes inflammation, and it increases fat storage. In 30 years, after HFCS and trans-fats have been banned because of the mounting evidence that they are the equivalent of drinking Potomac river water, we'll look at this stuff the way we look at our parents' 1960s fashion or believing that Lance Bass was straight. What the f*&k were we thinking?!

> "When you do the common things in life in an uncommon way, you will command the attention of the world."
>
> - George Washington Carver

8. Eat these foods at least three (and ideally five) times a week:

a. These foods are good for brain and body. If you want to know specifically how, ask me and I'll get you the literature. But these are the foods that give you the spectrum of what your brain (and thus your body) needs to be better than the competition – because I guarantee you that most competitors are not eating this comprehensively. Attached is a list that will help you check off the foods as you eat them, taken from John Berardi, who is a very highly regarded sports nutritionist – he gets his clients to eat in order to be better than their competition.

- Lean red meat
- Salmon
- Omega-3 eggs
- Low fat plain yogurt
- Protein supplements
- Spinach
- Tomatoes
- Cruciferous Vegetables (Broccoli, Cauliflower, Cabbage)
- Mixed Berries
- Oranges
- Mixed Beans
- Whole Oats
- Mixed Nuts
- Avocados
- Extra Virgin Olive Oil
- Fish Oil
- Flax Seeds or Flax seed oil
- Canned pumpkin (no sugar added)
- Green Tea
- Liquid Exercise Drinks (carb/protein)
- A vegetable/fruit concentrate supplement – these are supplements that are composed of freeze-dried fruits and veggies that help round out the required nutrients that are increasingly hard to find in the nutritional desert called Modern America.

"Do today what others won't, so you can do tomorrow what others can't."

9. Accept that being professional about rugby means being willing to prepare meals in advance.

a. How it feeds the brain: What else can I say? To feed your brain, you have to use it. Think ahead so you don't get caught short-handed and are forced to eat crap. Buy a dozen plastic containers and carry snacks with you. Cook chili by the potful and freeze some. Make sure you have chicken breasts available when you need some lean protein. Hardboil some eggs and carry them to work.

b. How that optimizes your competitive edge: Because then you can follow the other 8 tips above much more easily than the competition.

"Progress often consists of merely turning up what is already there. Did you know that right and left shoes were thought up only a little more than a century ago?"

- Bernice Fitz-Gibbon

10. Use supplements intelligently. They can make up for crap diets on occasion, but that just puts you back on even footing with competitors who eat right. Supplements should be about being "better than well" in order to be "better than them."

a. People will tell you supplements don't work. Rubbish. What they mean is, some supplements don't work, and others haven't yet been "proven" to work. Neither has broccoli. The right supplements do work, and they work according to the principles of competitive sports nutrition – give the brain what it needs, and the body will be enhanced accordingly. Whether that's increased hydration or power generation through creatine or a more efficient nervous system through caffeine, supplements can take the 90% athlete to 100%. But you have to get to 90% through nutrition first. Note that I consider protein shakes, fish oil capsules and veggie/fruit concentrates not to be "supplements." In today's fast food apocalypse, these are vital enough to be considered foods.

b. Supplements are a tough business, and knowing what to take, how much, and when can be confusing and expensive – the science isn't exact and the incentive to study supplements is pretty small because they are rarely patented. So you pay for a study and then some mom-n-pop fly-by-night supplement company uses that to sell something they've cooked up in their bathtub. Thus what we can gather so far from supplemental science and its effectiveness is that the following supplements show pretty demonstrable promise for rugby players (for dosing recommendations, places to buy this, etc. contact me and/or wait for the next publication which will focus on supplements):

i. Certified pure micronized creatine monohydrate

ii. Certified pure Beta-Alanine

iii. Reasonable sports drinks without HFCS, like Gatorade or Accelerade, but only during workouts or in recovery. I realize Gatorade sponsors the Eagles, so I shouldn't say this, but I suggest Accelerade because it contains some amino acids that can help with hydration, stave off fatigue, and enhance recovery – take my opinion for what it's worth

iv. Zinc/Magnesium during periods of stress

v. Certified pure, standardized Tribulus Terrestris/Eurycomia Longifolia extract (herbs that boost natural production of testosterone)

vi. Certified caffeine and vitamin B1 derivatives like sulbutiamine

vii. Certified Branch Chain Amino Acids (Leucine, Isoleucine, Valine) and, in particular, l-leucine
viii. Certified neurotransmitter formula, containing tyrosine, taurine, DMAE and phosphotidylserine/choline
ix. Certified Phosphatidylserine

The jury's still out on some others, like citrulline malate, d-ribose, etc., but many of these are showing significant promise. Two important points - I highlighted certified for a reason: if companies aren't willing to provide independent lab assays demonstrating their products' purity, then don't buy. It's the least they can give to you, the consumer. Second, think of supplements like rugby accessories (e.g. boot stud length, mouth pieces, gloves, pads, etc.) – they are vital, but they need to be tailored for individuals. Don't dump all of these into you at once, and don't play without testing each one reasonably to see how YOU do on them. You wouldn't run into a game with a new pair of boots that someone else handed you if you hadn't worn them in practice. Supplements are the same.

"If I were playing third base and my mother were rounding third with the run that was going to beat us, I'd trip her. Oh, I'd pick her up and brush her off and say, 'Sorry, Mom,' but nobody beats me."

- Leo Durocher

Final thought – if you decide to do this, you will probably catch some heat from folks. They will call you strange, obsessed and possibly crazy. They'll tell you that there's no proof this works; they'll tell you that you're wasting your time and money; they'll tell you that all they need is a bag of Doritos and a Coke after game time. And, when they're 18 and able to eat crap and still play, or retired, broken, and overweight (and the latter is usually the former only 10 years later) they might actually believe that.

But chances are that – like HFCS and trans-fats - they are toxic people, who will almost unconsciously revel in slowing down your progress. Such people can be well-meaning, but this doesn't make them any less toxic. As the quote at the beginning demonstrates, this is because when you follow these steps, you challenge what they have always known and done. Departing from a common path forces others to consider the possibility that there may be better ways of doing things than how they have always done it (not tough to conclude if you actually study the last 10 years of research but what kind of dork does that?!).

Remember: the definition of insanity is repeatedly doing the same thing but expecting a different outcome. If you always do what you have always done, you will always get what you have always gotten.

"Opportunities multiply as they are seized."

- Sun Tzu

Goal Setting Worksheet

This worksheet is meant to serve as a goal setting guide to give yourself motivation and direction on what your goals are and how to achieve them.

1: Take an audit of yourself as a player by listing strengths and weaknesses (engage your coach for feedback).
2: List outcome goals that you'd like to achieve (ex. Make a team, win a championship, etc.) These are long term goals with an outcome, that often times you don't have complete control over, but that supply you with motivation.
3: List performance goals that will help you achieve each outcome. These performance goals are what you do have control over and should be your focus on doing everything in your power to give you the best chance of achieving your outcome goals (achieving these is the highest level of success).
4: List processes for each performance goal that you will put in place on a daily/weekly basis to reach your performance goals.
5: Complete and print this sheet out. Put it somewhere where you will see it daily to motivate you.

Date	
What are your strengths as a player?	*Example: Strong Ball Carrier* **1:** **2:** **3:**
What are your weaknesses or areas to improve as a player?	*Example: I'm not fit enough to play my best* **1:** **2:** **3:**
What are outcome goals you would like to achieve as a player?	*Example: Make USA U18 National Team* **1:** **2:** **3:**
What performance goals will you achieve to give you the best opportunity to achieve that outcome?	*Example: Be as fit as I can be and run a 13 on the 20 meter beep test by June 1st.* **1:** **2:** **3:**
What processes will you put into your daily training to achieve those performance goals?	*Example: Do 3 fitness workouts each week on top of my team training and eat with good nutrition.* **1:** **2:** **3:**

Goals should be **S.M.A.R.T** (Specific, Measurable, Aligned/Adjustable, Realistic, Time-Based)

USA Rugby
Suggested Reading List

Gentlemen, reading about high performing athletes and rugby players and learning from there example is a great way to learn and improve as a player. We suggest you take a look at these books:

COACH/ATHLETE:

- John Wooden, 'A lifetime of Observations and Reflections on and off the Court.'
  - 'They Call me Coach'
  - 'My Personal Best: Life Lessons from an All American Journey'
- Phil Jackson, 'Sacred hoops'
  - 'More than a game'
- Michael Jordan, 'I Can't accept Not Trying'
- Lance Armstrong, 'It's not about the bike'
- Pat Riley, 'The Winner Within'
- Jonny Wilkinson, 'My World'
- Rod Macqueen, 'One Step Ahead'
- Jake White, 'In Black and White: the Jake White Story'
- Clive Woodward, 'Winning'
- Joe Montana and Tom Mitchell, 'The Winning Spirit'
- Bill Walsh, 'Finding the Winning Edge'
- Vince Lombardi 'When Pride Still Mattered'
- John Feinstein, 'A season on the brink'

MENTAL SKILLS

- Terry Orlick, 'In Pursuit of Excellence'
- John C Maxwell, 'Talent is Never Enough'
- Rob Gilbert, 'Gilbert on Greatness: how Sport Psychology Can Make you a Champion'
- Jeff Grout and Sarah Perrin, 'Mind Games'
- Charles Garfield, 'Peak Performance'
- Bryce Courtenay, 'Power of One'
- Dan Millman, 'The Way of the Peaceful Warrior'

NUTRITION

- Nancy Clark, 'Sports Nutrition Guidebook'
- http://hpnutrition.wordpress.com/
  USA Rugby Nutrition Website/Blog (with postings and Q/A)

Positional Profiling

Rugby is a game that requires all players to have all skills. That means that all players must be able to go into contact and put back a ball, run, pass, tackle, play within an attacking or defending system, compete for the ball, etc. However, rugby is also a game that requires specific skill sets out of specific positions.

These positional profiles are meant to serve you as a guide for what is specifically required of you out of your position on the field, on top of the general skill sets required of all players listed above.

1/3: Prop

- Strength, power and physical presence
- Ability to manipulate scrum opponent
- Desire to dominate your area
- Think ahead to next role AFTER doing first job first
- Urgency to breakdown
- Strong at pic'n'go
- Understand decision making at phase options, Snake, clean-out, pic'n'go, runner as decoy or ball carrier
- Understand all roles at breakdown attack and defense
- Vital power and strength to be outstanding lifter
- Self honesty in "hideaway" places
- Make it happen—don't be a "waiter"
- Unload under pressure—not 50/50 ball

2: Hooker

- Accurate throwing skills
- Sharp and alert at lineout
- Upper body strength to pressure opposition scrum
- Ability to control scrum with props
- 4th loose forward type role and skills
- Defense and tackling esp., on short side from lineouts
- Attacking role at kick off
- Pic'n'go skills
- Decisive and leader at breakdown defense
- Self driven—work hard in hideaway places
- Unload under pressure—not 50/50 ball

4/5: Lock

- Aerial skills—strong core to "stay up in air" at lineout and kick receipts
- Hand skills above head
- Variety of lineout winning skills
- Pride in control of your "area"
- Power and application at scrum, ruck, maul
- Constant work rate
- Mobility and ball skills
- Bonus tackles
- Get involved
- Understand defense roles
- Unload under pressure—not 50/50 ball

6: Blindside Flanker

- Hard nose defender
- Work in total unity with mini-groups e.g., blindside wing, 9, 8 and 7
- Look to become involved as decoy or ball runner
- Continuity and ball winner at breakdown
- 3rd lineout option
- Most of same skills as 7 and 8
- Good communicator
- Understand all roles in moves and options
- Unload under pressure—not 50/50 ball

7: Openside Flanker

- Major continuity role
- Support ball carrier
- Angles line to ball
- Ball hungry and direct line to ball—attack the ball
- Speed of foot and MIND: anticipation
- Never lose sight of the ball
- Extreme aerobic capacity
- Ball handling ,distribution and running capabilities
- Tackle choices at target (high vs low per situation)
- Upper body strength
- Defensive lines to ball
- Knowledge of all back attack and defense systems
- Work in unison with mini-groups
- Alert and functional at tail of lineout
- Unload under pressure-not 50/50 ball

8: Eight Man

- To be involved continuously in general play
- Attack or break gain line and ability to link close and wide
- Good ball control and distribution skills—critical link at scrum
- High work rate
- Ball hungry and assertive
- Cohesive relationship with 7 and 9
- Strong close quarter defender
- Understand all moves and options
- Assess opposition configuration to cut down their options
- Unload under pressure—not 50/50 ball

9: Scrum Half

- Passing strong and accurate off either hand—ground and chest
- Quick clearance from congested areas
- Good talker/organizer
- Understand all options and moves
- Explosive runner
- High work rate and aerobic capacity
- Precise up touch kicks off either foot
- Strong defender esp. at breakdown—work the boot
- Assess options and execute
- Cheeky and adventurous
- Sharp reactions—awake and aware at all times
- Speed to breakdowns to clear ball
- Organize defense around rucks—fill in gaps
- Link between forwards and backs

10: Flyhalf

- Shot caller—director of play
- Accurate passes all types—long, miss, dummy, feint, long-short, short-long
- Vary point of attack, esp. from phase
- Kicking game off either foot and full range, long, wipers, box, chip, grubber, drop goal
- Acceleration over short distances
- Threat to opposition defense line
- High work rate in support and cover
- Decision making under pressure
- Strong communicator
- Take defensive line up
- Mental and physical toughness
- Read defense of Opposition

12: Inside Center

- Ball carriage and distribution skills (as for 13)
- Full range of passes—esp. under pressure, pop, feint, pass, short-long, long-short
- Ball retention/presentation/distribution at impact
- Ability to stay up at impact
- Alternate foot kick option to 10
- Range of kick options-chip, gruber, long
- Communication/organizational skills
- Quick to act/react—visional skills
- Quick to reform/regroup
- Key defender—break up attacks hard nosed-front on and either shoulder
- Unity with 13 on defense
- Organize inside and outside Defense—esp. at breakdown.
- Strong clean out, snake, jackal skills
- Ability to step into first receiver when needed

13: Outside Center

- Ball carriage and distribution skills 2 handed carriage.
- Ball retention/presentation/distribution at impact
- Accurate range of passes, in pass, pop, feint pass, short-long, long-short
- Ability to stay up at impact
- Acceleration—change of pace
- Outside swerve/step, draw—unload
- Kick range, chip, grubber, nudge, long
- Very strong defense to break up attack—especially work with 10 and 12
- Communication
- Quick act/react skills
- Work rate, get back to assist counter attack, etc.
- Strong clean out, snake, jackal skills

11/14: Wing

- Play either side
- Sustained speed
- Evasive skills, swerve step, change of pace, fend
- Kick and recover skills—chip, gubber, long, etc.
- High work rate chase
- High work rate back to offer counter attack options
- Understand counter attack and your role
- Communication skills especially back 3
- Hungry to get involved—look for opportunities to insert into play
- Decoy or receiver insertions
- Chase hard and pressure opposition
- Hunger to get involved
- Concentration—don't drift in and out of game
- Call defenders out to cover overlaps etc.
- Blind wing to support ball carrier, clean out, snake

15: Fullback

- Ball receipt skills
- Anticipation, especially off phase ball
- Speed, both acceleration and sustained—top end—for support play
- Understand and initiate counter attack
- Organize back three
- Range of kicking skills—either foot
- All tackle types-Front on, wrap up, scythe, shadow
- Hard nosed last line of "D" mentality
- Utilize panoramic vision of game and communicate, act/react.
- Adventurous
- Organize defensive line, spot gaps and advise players to fill spaces