

# FITNESS METHODS

*There are many proven methods available for a coach to use when designing a fitness program to condition his players in the various ingredients of fitness specific to his particular sport. A knowledge of the different methods and a knowledge of when to use them during an athletes development towards peak fitness is of the utmost importance if a high standard of fitness is to be achieved.*

## **Fitness Methods**

The first lesson to learn is that there is no substitute for hard work. Special diets, vitamins, drugs or short cut training methods will not compensate for honest hard work, specifically designed for Rugby League fitness.

The modern day Rugby League coach must continually update his training methods. If he uses the philosophy that “what has been good enough in the past will do today”, his team will suffer in their preparation and ultimately on the field of play!

The most important people in the game of Rugby League are the players themselves. The success and enjoyment of the code is strongly influenced by the players’ attitude, behaviour and application of their skills during a game.

The game itself is a team sport and the failure of any player to fulfil his requirements and responsibilities as a team member conflicts with the spirit of the game which provides for comradeship, co-operation, understanding and the development of personal discipline and respect for self and others.

Prepare your players well. Care for them well and they will “produce the goods” where it counts most – on the field of play!

## **Endurance**

Endurance must be viewed as the “base to build on”; the development of the cardio respiratory system, the body’s ability to take oxygen in and circulate it around the body to the working muscles at rates fast enough to maintain a certain training or competition intensity. Endurance is based on an adequate supply of oxygen, hence aerobic endurance “AER” with air or oxygen.

Aerobic endurance has two components:

- Aerobic Capacity – ability to “keep going” for long periods at a good pace.
- Aerobic Power – ability to “increase the tempo” for shorter periods of 2-3 minutes, without accumulation of the dreaded lactic acid!

Rugby League is a body contact sport demanding players to perform sustained physical effort and sharp mental concentration. If endurance is not built as a base, this will not be able to occur.

### **Methods: Long Slow Distance – Aerobic Capacity**

You will find some debate amongst coaches as to the relevance of this form of endurance training for Rugby League. However, I believe it has a place especially where training is stopped once the competitive season is completed as is the case in most country areas. It should be based on continuous running, starting easy and building up to 20-30 minutes of slow steady running at a steady pace, without the feeling of “shortness of breath” or fatigue, and could progress to up to 60-90 minutes.

### **Benefits**

- Increase ability to use fat as fuel instead of glycogen (overweight players)
- Increase central and peripheral circulatory capacity
- Increase aerobic enzymes in the muscles
- Provides the base for the gradual development of strength in the connective tissues, tendons, ligaments (A program void of this could induce injuries related to premature overload).

### **No road runs – Why?**

The main drawback with this method of training for Rugby League is that it does not compliment strength training. Why? Use carefully!

## **Fartlek Training**

For Rugby League pre-season endurance training, it is considered to be the most effective method to use.

This form of training involves efforts of varying intensity interspersed with “active recovery periods”, ie. fast, slow, walking paces developing both aerobic capacity and aerobic power.

- Use undulating terrain, hills, flats, long inclines
- Relaxed, pleasant atmosphere
- Allows for individuality, train as he feels, “listen to his body”
- Provides variety
- Serious training for players with imagination, will power, determination
- For those who lack the ability to work within the structured framework of stopwatch! – lead up to this

### **Use**

- Surges, accelerations, efforts (varying eg 8 x 50 sec)
- Hard hills, easy hills, long hills, walking, jogging, sprinting

### **Point**

The coach can also structure Fartlek training. He can also use groups eg backs, forwards, halves, players of near or equal ability. Use parks, golf courses, paddocks (care – why?), set route around town, avoiding roads.

What would be the greatest value to you as a coach in using this method?

## **Interval Training**

Involves efforts of varying intensity with recovery intervals of varying duration, very efficient and valuable method, all season!

- A basic work tool for the coach
- Very versatile
- All components of training can be trained

- The development of the various energy systems can be performed and manipulated through variations in:-
  - (a) distance of effort
  - (b) intensity of effort
  - (c) length of recovery
  - (d) type of recovery
  - (e) number of repetitions
  - (f) number of sets of repetitions
  - (g) frequency of sessions
  - (h) time efficient!

Although not technically correct I like to divide interval training into two categories – slow intervals, fast intervals (technically better termed “increasing intensity”).

**Example:**

“If I said today (pre-season) we are going to run 3.2 km at near max speed, you would react strongly, but if I said we are going to run 4 x 800 m with a recovery (or interval) of 5 minutes between each one, you would react more favourably! Yet you would still cover 3.2 km.

From a coach’s point of view, what would be the value of the above example?

For pre season endurance 400 m intervals would probably be more effective on a ratio of 1:3. 30% of VO<sub>2</sub> max and gradually lengthen this to 3-4 minutes work/intervals.

Rugby League is an interval game, work – recover – work. The shorter the recovery period in the game the more efficiently a team works. Interval training very much assists in developing this if designed correctly.

In interval training, a high level of effort can be sustained with a lower level of lactic acid build up and fatigue, planned progressively.

Slow intervals, 400-800 metres used to stress the lactic system should be done at near maximum speed, recovery should be 3-5 minutes. A jog in the recovery period will help disperse the lactic acid.

Fast intervals, from 200 metres - 5 metre! If you subscribe to the theory that Rugby League is a 10 metre game, the phosphate energy system is very important to a player due to its ability to restore quickly, thus allowing the many short sprints/dashes in Rugby League without becoming fatigued.

Your comments as a coach on this theory?

### **Slow Interval Example**

2 x 800 metres - under 3 minutes - 5 minute recovery.

4 x 400 metres – under 2 minutes – 3 minute recovery.

1 x 800 metres – under 2 minutes 40 seconds – 5 minute recovery.

Distance covered – 4 km + 5 minute slow jog – approx 5 km.

Working time – 21 minutes 40 seconds.

Recovery time – 27 minutes.

### **Opinion**

A Rugby League player should not need to run more than 2 kms – your opinion?

### **Fast Interval Example**

5 x 50 metres – under 7 seconds – 20 second recovery.

5 x 100 metres – under 15 seconds – 40 second recovery.

5 x 22 metres – under 5 seconds – jog back.

5 x 100 metres – 15 seconds - 40 second recovery.

5 x 50 metres – 7 seconds – 20 second recovery.

OR

4 x 200 metres – under 36 seconds – 2 minute recovery.

8 x 100 metres – 14 seconds – 1 minute recovery.

8 x 50 metres – 8 seconds – 40 second recovery.

10 x 22 metres – 4 seconds – jog back.

### **Important**

Times are only a guide. Best to average out team times eg backs, forwards.

## **Aim**

To improve times for each session (individual) – importance of recording to monitor progress.

Interval training is very demanding. It tests the commitment of the players.

## **Advantages**

- Develops both aerobic capacity and to a greater extent, aerobic power
- Develops the anaerobic systems
- Improves strength of leg muscles (opinion)
- Improves recovery period to absolute minimum
- Time efficient, quality
- Applies the important principle of progressive overload eg recovery reduced as player becomes fitter
- Do not let a player stand or sit during recovery
- Progression can be monitored
- Good for developing self-discipline, psychological

## **Important**

Interval training can be incorporated into skills work. How would you as a coach plan this aspect?

Interval training can be specific to various stages of a season. Players can “feel” this type of endurance training.

How often would you as a coach use this method?

## **Circuit Training**

A form of general fitness or specific fitness training. Can be designed to get as close to the actual game of Rugby League, as possible.

Based on sound physiological principles aiming at the kind of varied activity and continuous challenges attractive to large numbers of young men (whom may show little enthusiasm for other forms of training).

Essentially, a hard continuous bout of strenuous exercise where selected activities are performed at “stations” a specified number of times depending upon fitness levels, time of season and requirements of a team at a given time.

Each player or group of players compete against “the clock” trying to better his times, or number of exercises, depends on type. Correct performance of exercises is more important than the actual times; especially early in the season, correct distances also.

Circuit training can be specific ie. develop all ingredients of fitness.

Has an effect on all round strength muscular endurance, power and mobility (although not as much as the more specific weight training – not always possible in the country!). The coach’s imagination and knowledge of the game of Rugby League only limit circuit training.

### **Advantages**

- Avoids problems of overuse injuries
- Good for balanced strength development
- Large groups can train together
- Each player can observe and assess their own improvement
- Provides positive feedback
- Space efficient
- Can be set up using weights
- Can be supervised to ensure maximum effort

### **Types**

- Fixed circuit – set by coach – reps.
- Interval circuits – different reps – recovery – speed
- Total repetition circuit – strength – no. of reps.
- Skills circuit – skills between conditioning bouts

How would you as coach design a skills circuit?

Above all circuit training can be related to the game of Rugby League eg. up – down – jog – push – pull etc.

Can provide a first class workout expending more energy in 30 minutes than in a total game! and herein lies a very important point in training. “At training you must work harder and longer” than the game itself, however “longer” is not as important as the “quality” of the workout. That is why “long” runs are a “dodgy” training method for Rugby League at any stage of the year.

The energy systems must be overloaded more than they would be in the actual game. Therefore intensity must be carefully planned and you must train as close to the game of Rugby League as possible! Circuits can be done at home, gymnasium, Clubhouse, Rugby League ground (where most training should be done!) Why?

## **Speed**

This is essential in our modern day game of Rugby League and is becoming increasingly more important for all players, forwards and backs!

There is speed of limb, reaction speed (opinion – most neglected), speed endurance (not as important in our game, yet has its place in training).

Speed is inherited, however the speed of a player can be developed to his personal best through correct training methods and equal attention to technique. Players who cause the most trouble to the opposition are those who are quick off the mark and move quickly for the first 10-20 metres. Rugby League, a 10 metre game?

Speed off the mark is particularly important especially for forwards operating around the ruck, why?

Speed takes players through gaps, chasing kicks, support play, and defence getting there first. Speed allows a player to attack the ball! Can speed be developed before endurance?

The decisive factor in speed training is the use of a high movement velocity ie. the player must employ maximum power and optimal movement frequency to reach or exceed his top speed. This means fast running for brief periods with sufficiently long recovery to minimise lactic acid level in the body. Otherwise speed training will turn into speed endurance training.

Neuromuscular co-ordination appears to be the most important singular factor in the development of speed ie. “getting everything working in a coordinated pattern, to propel a stationary body into rapid movement”.

Basically speed training aims to:-

- develop speed of limbs for stride frequency
- develop leg power (power zone!) for maximum drive (stride length)
- technique for efficient acceleration and running speed

From a coaches point of view, should pure speed training be carried out at every training session?

### **Acceleration Drills**

Rugby League requires players to accelerate rapidly from different positions. Should be no longer than 5 seconds, on a command sprint from different positions aiming to reach maximum speed in a short distance. Be aware of fatigue.

### **Reaction Drills**

- The delay in receiving to move and actually moving
- Speed depends on reaction time
- Extremely important in the game of Rugby League
- Should be in every training session for a short period of time
- Often neglected

Own drills can be devised which may include acceleration drills mentioned ie. static starts or probably more relevant dynamic starts eg. walking, rolling, half or full turns, semi squats, squats on the move, all aiming for maximum reaction and acceleration towards a dropped ball, chasing a kick, support play etc, after a given signal.

What other areas in Rugby League depend on reaction time?

## **Agility Sprints**

Aimed at helping the player to develop the ability to change direction at high speed, an attribute so important in a player, a distance of no more than 40 metres should be used.

As a coach what drills could you devise for this area?

## **Sharpening Up Sprints**

Combination – these are used to develop awareness of the importance of maximum effort and quickness off the mark over a short distance, up to 40 metres.

## **Extended Sharp Sprints**

Many variations eg. jog to 22 metres and sprint to far try line, jog back, jog to 10 metre line, sprint to 78 metre line, jog to 100 metre etc.

## **Full Sprints**

A Rugby League player must be able to maintain speed for the full 50 – 100 metres. To develop this capacity, full sprints at maximum speed must be done up to 200 metres, although very rarely will a player be required to sprint more than 30 metres in the actual game situation.

Would you as coach use a ball during sprint training?

## **Chain Sprints**

Groups of 8-10 with a ball, jog leisurely passing the ball, on command, player with the ball sprints, others try and catch him.

## **Follow the Leader**

Formation as above, only the player with the ball sprints, others have to support him. The ball must be passed to all players at maximum speed.

What other drills with the ball could you use?

## **Technique Run Throughs**

A sample of this could be high knee raising to 22 metres, jog back, stride out as far as you can to 50 metre line, jog back (stride is very important in speed), jog to 22 metre, build up to 50 metre, sprint to try line, (run throughs), 100 metres of smooth long striding, concentrating on technique.

## **To Sum Up**

All sprint training should take place at the beginning of training after a thorough warm up and stretch – players' fresh. Recovery should be adequate. The elements should be in players favour ie. wind behind him, run down hill, why? Sprint training should be of short duration. Above all, it must be done correctly.

Although speed is an essential ingredient to the success of wingers, centres etc. It is a great advantage for all players to be fast.

Speed takes the ball carrier into and through gaps in attack, enables the support player to be in a position and a player to follow and gather a kick, to run around the opposition. When defending, to move up quickly and nullify an attacker etc.

There are more players who have not fulfilled their potential because of lack of speed than for any other reason!

## **Plyometrics**

Has become a popular method of leg strengthening and developing power (its primary function).

- Excellent for developing “explosive power”
- Bridges the gap between strength and power
- Basically means, bounding, hopping and jumping

## **Caution**

Players must have a reasonable strength base for all but the lowest intensity plyometrics!

The ability to sprint over short distances, jump high or the many other aspects of Rugby League that depend on “explosive power” (combination strength and speed) can be enhanced by plyometrics.

Characterised by very forceful contractions of muscle tissue especially the legs (and the “power zone”).

Plyometrics could fit into your training program as follows:-

Warm up – stretch	*	Never at the end
Skills	*	Injury potential very high
Plyometrics Conditioning	*	Very demanding

Plyometric exercises should be done as quickly as possible (the faster the muscle is forced to stretch, the greater the tension it exerts). **Beware:** “more is not necessarily better” in plyometrics, but the “quality” of performance (as with all training).

### **Example**

Bounce vertically on the spot for 30 seconds (no longer) using double arm take-offs. Hop over distances of 30 to 100 metres (hopping 100 metres is OK for advanced trainers, very extreme), first use left leg, then the right leg, then both legs. Bounding and hopping off one leg and both legs using maximum speed up to 40 metres x 4 repetitions.

### **Depth Jumps**

Only used by players with extensive strength training background eg. squatting x 2 body weight, can be the cause of devastating injuries if not ready. This is the most intensive activity a player can undertake, other than probably maximal strength training.

### **Opinion**

Probably not needed in a Rugby League players program, more realistic, “broken down” version, jumping over a partner, tackling bags, in and out tyres, “harness racing”, resistance, towel, rope (care), “power sledge”, expensive, why not use tyres?

## **Other Methods for Variation**

My personal belief is that “most” training should be done on the Rugby League field where the “blood, sweat and tears” are lost, and the glories! Motivation, distances, space, pride, specific however, swimming pool, gymnasium, school or recreation halls, parks, golf courses, paddocks, what others? All have their place during the season.

## **Other Equipment**

Medicine balls, tennis balls, volleyballs, basketballs, skipping ropes, light dumbbells, any others?

Pushing and pulling activities, as old as they might be, are great for variation and all round strength work (good for pre-season soft tissue -- joint strengthening – why? and a laugh!)

Different games, continuous soccer, tag, tip Aussie Rules. What other games do you use?

Don't leave out the games specific to Rugby League!

Do we teach players how to fall correctly?

## **Pressure**

In opposition, the defence must deny the attackers time and space. Without being near enough to tackle, everyone can still move up to a position of expected attack, making it difficult for the ball carriers to operate. By doing this, you are causing something to happen and not waiting for something to happen.

When applying these principles, the deciding factor is speed, speed of thought, speed of execution.

Ball in flight – contest!

Ball in hand – protect!

Ball fumbled or spilled, tidy up!

All these principles cannot be applied successfully if the players are not 100% fit, positive, committed, confidence!

## **Pressure Training**

Practice is important. It is very important to regularly evaluate the “quality of the product” ie. the players your training sessions are turning out.

“Perfect practice makes perfect playing”. Training must be as close to the game situation as possible.

The only way to develop skill and fitness which is specific to the game of Rugby League is to “continually expose” the players to match simulated conditions, ie. pressure.

Skills must be practiced at the same speed and intensity as would occur in the actual game, otherwise continuous mistakes will be made in the actual game because of pressure.

What ways can you introduce pressure at training?

## **Principles of Team Play**

### **Go Forward**

When a player receives the ball, he must perform an action which will take the ball forward. So often teams lose ground, why? Run away from opposition rather than at them, approach with commitment!

### **Support**

Each player has the ball in his hands for a short period of time. What he does the rest of the time is very important. The aim should be to support the ball carrier and reinvolve himself in the game. Good support provides options for the ball carrier, involvement!

### **Continuity**

Once a player is going forward with support, the only other requirement for effective attack is to keep the ball alive so significant gains can be made. A player must be able to combine all the skills, passing, catching, kicking etc.

## **Fitness – Skills in Grids**

- Highly efficient practice in coaching
- Simply squares set out on the ground with lines or markers, usually 10 metres x 10 metres – vary

## **Benefits**

- Fitness and skills can be combined
- Work rate can be intensified, specific to Rugby League
- Problem solving, pressure introduced
- Short warm ups, cool downs can be done
- Utilisation of space, with large numbers
- Supervision is easy, maximum effort
- Competition can be introduced – motivation
- Innovation can be encouraged
- Comprehensive practice with few players, specific positional practice
- Players can devise own fitness, skills drills

Players (people)		
Team (combination)		
Nutrition (fuel)		
Energy System		
Warm Up Stretching	Ingredients of Fitness	Principles of Fitness
Training Methods		
Player Safety		Injury Management
Personal	Skills	Team
Maximum Personal – Team Performance		
Sportsmanship	Enjoyment	Satisfaction

**A genuine love of the game of Rugby League**