

# **TRAINING FOR RUGBY LEAGUE**

**FARTLEK TRAINING**

**INTERVAL TRAINING**

**SPRINT TRAINING**

**STRENGTH TRAINING**

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## FARTLEK TRAINING

"Involves alternating fast and slow running over varying terrain". It is an informal method of training in that neither work or rest intervals are precisely timed, yet it is specific to Rugby League in its alternating of AEROBIC and ANAEROBIC work.

### EXAMPLE 1:

1. **WARM UP**
2. 800 m ... fast ... steady speed
3. Walk fast for 3 minutes
4. Easy running broken by 50 – 80 metre sprints – repeat until fatigue starts
5. Easy running broken by 10 – 15 metre sprints
6. Running uphill broken by 100 – 150 metre fast pace
7. Walk fast for 2 minutes
8. Run fast for 2 minutes
9. **WARM DOWN**

### EXAMPLE 2:

1. **WARM UP**
2. 5 – 6 minute circuit work
3. 800 metre to 1 km run at  $\frac{3}{4}$  pace broken by 3 minute walk x 2
4. 3 – 4 100 metre accelerated sprints with 50 metre walk recovery
5. 2 x 400 metre fast pace with a recovery jog after each
6. Walk 5 minutes fast
7. 5 – 6 x 100 metres at  $\frac{3}{4}$  pace with 100 metre jog recovery
8. Walk for 3 minutes
9. **WARM DOWN**

## INTERVAL TRAINING

Series of **INTENSE** bouts alternated with periods of **RECOVERY**.

Primary advantage is in delaying **FATIGUE** and allowing for greater **VOLUME** of **MAXIMAL INTENSITY WORK PERIODS**.

Can be manipulated to stress either the **AEROBIC** or **ANAEROBIC** systems.

The savings in fatigue of interval work can be converted to an increase in the **INTENSITY** of the work bouts.

Compare 1 minute **MAXIMAL** sprint with 6 x 10 second sprints.

- less **LACTIC ACID** accumulation
- less fatigue, and an increase in intensity
- recovery periods allow for the replenishment of **ATP.PC** stores thus **ENERGY** from the **LACTIC ACID SYSTEM** is spared

Interval work as much as 2 ½ the intensity of **CONTINUAL** work can be performed before Lactic Acid levels are comparable.

## INTERVAL VARIABLES

The **OVERLOAD PRINCIPLE** as applied to interval training is accomplished through the manipulation of 5 variables.

### 1. RATE AND DISTANCE OF WORK

- long duration work at **LOW INTENSITY**
- medium duration work at **MODERATE INTENSITY**
- short duration work at **HIGH INTENSITY**.

Again **ENERGY SYSTEMS** desired is dependent on time of work intervals. **RATE** – 80-90% HHR or 85-95%MHR or at least 180 BPM.

### 2. REPETITION NUMBER

Repetition number determines the **LENGTH** of the workout and is dependent on the desired work load/rate.

### 3. RECOVERY INTERVALS

Time and recovery HR should drop to at least 140 BPM between repetitions and 120 BPM between sets. 6-10 second counts should be made periodically throughout recovery intervals. Work/rest ratios can also be used – 800 metres = 1:1 or 1:1 ½ - 400 metres = 1:2 – short = 1:3.

HR should still be monitored periodically so **INTENSITY** can be **INCREASED, DECREASED** or **MAINTAINED**.

## TYPE OF RECOVERY

This relates directly to the **ENERGY SYSTEM** you wish to develop ... **REST ... RECOVERY ...** walking ... **WORK ... RECOVERY ...** fast walking ... jogging - ... **COMBINATION** of A and B.

**ATP-PC SYSTEM** ... rest ... recovery so to allow full restoration of **ATP – PC** for continual use and re-use. **LA SYSTEM** ... work ... recovery which inhibits restoration of **ATP-PC** so **LA SYSTEM** is called upon earlier in **ENERGY PRODUCTION**. **AEROBIC SYSTEM** ... prevent LA build up so rest recovery would be used.

### 4. TYPE OF RECOVERY ACTIVITY

### 5. FREQUENCY PER WEEK

## SUMMARY

- (a) Determine which energy systems
- (b) Select type of activity i.e. running
- (c) Formulate training prescription i.e. **SETS ... REPS ... DISTANCE ... TIME ... and RECOVERY PERIOD**
- (d) Apply **PROGRESSIVE OVERLOAD** throughout program

## SPRINT TRAINING

Obviously to develop speed ... **ATP-PC SYSTEM** plus **MUSCULAR STRENGTH**.

Speed is of primary importance to a Rugby League player.

Sprinting is governed by **STRIDE LENGTH** and **RATE**.

## ACTIVITIES TO DEVELOP STRIDE LENGTH AND RATE

- (a) Form training and drills e.g. butt kicks, bounding, pawing, high knee lifts etc
- (b) Flexibility
- (c) Strength training
- (d) Sprint loading e.g. hill sprints ... 40 – 80 metre towing ... 20 – 40 metre
- (e) Over-speed sprints e.g. downhill sprints 3 degrees at 50 metres
- (f) Plyometrics

## LONG SPRINTS

Only on these will **MAXIMUM** speed be reached as it takes about 6 seconds to reach maximum speed.

To ensure maximal sprint effort **RECOVERY** must be sufficient to allow ATP-PC stores to replenish ... 3 minutes. Long sprints are from 60 – 100 metres.

## SHORT SPRINTS

Very important to a Rugby League player and may take up to 70 – 85% of a players sprints training. Speed over the first 10 – 15 metres is greatly influenced by leg strength and explosive jump power. Again length of recovery period will determine whether you are **MAXIMALLY** training the **ATP-PC SYSTEM** or partially the **LA SYSTEM** anaerobic power/endurance.

## ACCELERATION SPRINTS

Gradual increase in running speed from jogging to striding to sprinting. Recovery ... walking. Ideal sprint training method in cold weather. **FORM/TECHNIQUE** can be applied more easily due to graduated nature.

## HOLLOW SPRINTS

Two (2) sprints interrupted by a **HOLLOW** period of either jogging or walking e.g. 50 m sprint ... 50 metre jog ... 50 metre sprint ... 50 metre walk.

## FLEXIBILITY

Static

PNF

Positive effect on speed

Positive effect on strength

Positive effect on **INJURY PREVENTION**

## OTHER TRAINING METHODS

**PLYOMETRICS** e.g. depth jumps, lateral box jumps, skipping drill, double leg bound, multiple side-hop drill etc. Link in the speed/strength chain. Increases explosiveness to foot/ground contact time. **SHOULD BE SUPERVISED BY KNOWLEDGEABLE TRAINER.**

## PERIODIZATION

The manipulation of training **INTENSITY ... VOLUME** and **TYPE** into distinct training cycles so to achieve **PEAK PERFORMANCE** at a specific time with the least chance of injury from **OVERTRAINING**.

## CROSS TRAINING

More suited to off season due to its **UNSPECIFIC** nature.

## STRENGTH TRAINING

Increased strength enables skills to be executed more effectively ... run faster ... tackle harder ... more resilient etc. Decreases chance of injury.

**STRENGTH** is the ability to exert maximum force. **POWER** is the combination of strength, force and speed. Both are essential for improved performance in Rugby League.

Strength training can be divided into 3 main categories.

1. **OFF-SEASON** – Sept/Oct/ - Jan/Feb

Consists of general aerobic 7 speed work ... summer team games ... and **STRENGTH**. This time is best spent redeveloping your muscle mass after the previous seasons commitments. Your preparatory program would be hypertrophic i.e. muscle building. Correct technique is **MOST IMPORTANT** for both future weight training and **INJURY PREVENTION**.

Activities to be completed include the 3 main or base activities, **POWER CLEAN ... SQUAT ... BENCH PRESS**.

Additional activities are to be utilised in alternating program, **CHIN UPS ... PRESS BEHIND NECK ... LATERAL PULLDOWNS ... DIPS ... BENT OVER ROWING ... GOOD MORNING ... INCLINE PRESS**.

Activities are selected to provide variety and develop varying body parts depending on individual deficiencies and positional requirements.

Once a **SOUND BASE** has been developed, the program changes from **HYPERTROPHY** to **STRENGTH**. Repetitions are reduced and the weight is increased. After a suitable strength development repetitions per set are further reduced to develop the **POWER STAGE**. The weight is again increased.

### **SAFETY**

It is imperative that weight training be supervised especially when the sets are reduced to 5 and 3 repetitions. **INJURY** can occur if correct techniques and procedures are not adhered to.

### **PRE-SEASON** – Jan/Feb to Mar/Apr

Consists of intense aerobic/anaerobic work 2 – 3 times per week ... 400 metre interval work ... endurance ... long/short sprints ... circuits ... skills ... **STRENGTH**. Having developed a good **BASE** during off-season weight training you are ready to build on that base throughout the pre-season.

As there are many other aspects of the game to be developed strength needs to be **MAXIMAL** prior to competition. Progressive overload of hypertrophy ... strength and power training is further encouraged.

Off-season is obviously the most conducive period to developing strength and power. Because of the volume of work required in other fitness aspects, the volume of strength training must be reduced, **HOWEVER NOT STOPPED**.

### **COMPETITION**

Once the season begins the time allotment to strength training diminishes but its importance to overall fitness **REMAINS HIGH**. A **MAINTENANCE PROGRAM** designed to retain strength developed should remain. Workouts are reduced to two times per week. The emphasis being on **QUALITY ... and YOUR RESPONSIBILITY**.

The importance of maintenance cannot be over-emphasised. Without it there is total negation of previously gained benefits -10 days ... strength declines, 5-8 weeks ... most strength gains diminish.

## JUNIOR PLAYERS

Players who have previously completed minimal weight training must remain on a **HYPERTROPHY PROGRAM FOR A LONGER DURATION**. It is important to develop a sound base and good technique before advancing to heavier loads.

Players with no experience at weight training are encouraged to begin **RESISTANCE TRAINING** but only using **LIGHT LOADS**. Sports specific activities such as Power Clean and Squat should be excluded until a sound base has been established and of course **CORRECT TECHNIQUE**.

**HYPERTROPHY** ... well balanced program ... high volume ... 8-15 repetitions base for future strength.

**BASIC STRENGTH** ... specific exercise selection ... mod volume ... repetitions 3 – 8 promotes maximum strength for future power work.

**POWER** ... very specific ... low volume ... repetitions 2 to 3 in conjunction with speed and ply training.

**MAINTENANCE** ... specific ... very low volume ... repetitions 2 to 6 ... so to avoid overtraining or injury during the season.