

Fitness for AFL Football

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How do we get players fit for a season of AFL football?

- Clubs and teams within each club come from different backgrounds
- Junior teams-U/14, U/16, U/18
- Senior teams- young players, seasoned campaigner, older player
- Obviously we would train them all differently

Changes over the Last 40 Years

(Neil Craig 1997)

- Time taken to play on after a mark
- 1961 - 8 sec, 1997 - 4 sec
- Time taken to play on after a free kick -
1960 - 13 sec, 1997 - 9 sec
- Number of 'play-ons' in a game -
1961 - 15, 1997 - 60
- Number of marks -
1961 - 79, 1997 - 116



Changes over the Last 40 Years (Neil Craig 1997)

- Player speed -
1961 - 5.5m.s (18sec/100m), 1997 - 7.2m.s
(14 sec/100m)
- Ball Speed -
1961 - 3.5m.s, 1997 - 6.5 m.s
- Collisions -from 1961-1997 players are
involved in about 20% more collisions

- Average midfielder covers 16.7 km per game
- 75 2 sec sprints
- Shane Crawford - 132 2 sec sprints



- So what sort of an athlete are we preparing conditioning programs for? Distance, speed, agility, strength etc



Designing a Program

- Designing a conditioning program is a difficult task for Australian Rules Football, as the game requires the athlete to be developed in all fitness components eg:
 - strength
 - speed
 - agility
 - cardiovascular endurance
 - speed-endurance
 - flexibility

Program Design

For Intermittent sports, sometimes recognised as a Hybrid Sport (Multiple Sprints), such as Australian rules Football, Program Design continues to evolve. With limited research in Australian Rules Football, it is vital that we draw upon our counterparts' scientific research; such as soccer, rugby, basketball, hockey, etc. It is from these sports and others that assistance and clarification of training principles are established

THE FORMULA

It is generally accepted amongst sports scientists that there is no specific formula that is right for everyone. Although there are logical scientific principles that cause physiological adaptations.

PLANNING

LONG TERM PLANNING:

Training to Train → Training to
Compete → Training to Win

SHORT TERM PLANNING

Preparatory Phase → Competition
Phase → Transitional Phase

Principles of Training

- adaptation
- overload
- specificity
- reversibility
- maintenance
- recovery
- phases of training

THEORY IS GREAT



If the whole season is a constant and
no variables come into play

WHAT THEORY DIDN'T TELL YOU

- GROUND CONDITION SOFT V HARD V JUST RIGHT
- EFFECTS OF TRAVEL - PRE GAME / POST GAME
- TYPE OF GAME PHYSICAL V RUNNING
- OPPOSITION
- GROUND SIZE
- COMPOUND EFFECT OF HARD GAMES, TRAVEL
- MENTAL EFFECT
- TURNAROUND 6 DAY 7 DAY 8 DAY
- TIME OF DAY
- INJURIES
- GAME PLAN
- COACH

AGE

Do you train an old team the same way
you train a young team if the game
plan is the same?



Strength Training

- IMPORTANCE OF RESISTANCE TRAINING
- Stabilisation of joints
- Coordination (minimises stress musculoskeletal system)
- Absolute strength (overcome inertia)
- Eccentric Strength is necessary for changing direction and stopping quickly

Strength Training

- Increase in connective tissue (ligaments and tendons)
- Specific strength
- Torso strength
- Unilateral strength
- Functional Strength
- Core stability

Preventative Measures

- Individualise training programs in recognition that different athletes have different thresholds for overtraining
- Maintain good communication with each athlete, particularly about his levels of fatigue and stress
- Increase training load (intensity, volume) gradually

- Provide variety in workouts
- Involve athletes in the design of some workouts
- Provide complete lay-off periods between seasons
- Include training sessions which generate success for athletes
- Encourage good nutrition (energy and carbohydrates) among athletes
- Training Diary

- Include 'regenerative' techniques (massage, relaxation, hydrotherapy) when feasible
- Provide alternative training environments
- Cross-training (other training modalities to stimulate training responses without stress on body parts)

Progressive Functional Training

Progressive Functional Training optimises functional movements, core stability, proprioception, specific strength and motor skills.

Functional progression will undoubtedly assist in injury prevention. Functional training is preparing the athlete to perform functional patterns and movements that are closely related to the sport (Gambetta, 1996).

Planning a Program

- Pre Xmas - 5/6 weeks
- Xmas break - 4/5 weeks
- Post Xmas - 6 weeks till Practice matches
- Season - 18-22 weeks
- Finals - 4 weeks

What to do when!!!

- **Pre Xmas** - hills, fartlek running, interval running, base plyometrics, weights
- 3 x weights, 3 x running
- **Xmas break** - as above, cross training, swim, ride, box, row, weights .
- Specialized groups depending on strengths/weaknesses, injuries.
- 3 x weights, 3 x running
- Diary /program

- **Post Xmas - Season Starts - 2**
weeks more of Xmas program, then
reduce distance of intervals (>300m),
drop hills and fartlek running,
increase plyometrics, add speed
sessions, repeated efforts -
anaerobic power
- 3 x weights, 3 x running



- **In Season** - varies due to club's own situation eg. Wet grounds, ground size, back to back hard running games
- 4/5 week cycles -
- 2-3 weight sessions, 2 x running
- **Finals** - tapering? Continue monthly cycle, training depends on where you finish in the finals system

Recovery

- Recovery sessions very important
- Swim -pool, beach
- Stretch
- Jog
- Nutrition
- Rest



Intensity - Use of Heart rates

Train 3-4 times per week

** 3 - 4/ week will produce a training effect

2week will produce a maintenance effect only with a gradual decrease in fitness

- Get used to monitoring your HEART RATE.
When you train follow this chart:

- CHECK YOUR HEART RATE:(beats per minute)

- 120 - 135 - NO training effect

- 135 - 155 - training threshold -
MAINTENANCE

- 155 - 200 - high intensity
POSITIVE training effect

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Pre Xmas Training



- 19/11 fartlek 12mins -
- must get big change of pace.
- 10 mins for bottom age
- 21/11 intervals
- 100m, 200m, 300m, 400m, 500m, 400m, 300m, 200m, 100m. - jog 100m recovery
- (no 500m and 2nd 400m for bottom age)
- 23/11 hills - 6 x long hills, (5x -bottom age) 2 x hopping short hills, 6 x sprint short hills (5 for bottom age)

Xmas Break

1. 15 min fartlek running - triangle session - 80m @ 80%, 15m walk, 65m jog @ 50%.
2. 100m, 200m, 300m, 400m, 500m, 400m, 300m, 200m, 100m @ 80% jog 100m recovery
3. 2 sets of 4 x 300m @80% pace, walk 50m, jog 50m recovery between each 300m. 4 minutes break between each set.

Post Xmas



- 10/2 Extended Plyometrics
- 10 x 10m
- 10 x 20m
- 12/2 Extended Plyometrics
- 300m, 200m, 100m, 200m, 300m
- 14/2 Extended Plyometrics
- 6 x 6 x 60m back to back onballers
(recoveries, 120secs, 90, 60, 30, 30secs)
- 5 x 6 x 60m for all others

In Season

- 2 sets of 4 x 200m @ 100% pace
- 3 x 10 50m sprints @ 100% pace, with a walk back recovery and 3 mins rest between sets.



Finals

- Week 1
- 2 x 4 x 100m
- 4 x 20m, 4 x 10m, 4 x 5m



Fitness Testing - What does it tell us?

Fitness testing can be a useful guide in identifying particular strengths and weaknesses, evaluating training programs, comparing players, and motivating players to improve.

The following Characteristics constitute an effective Testing Program

1. Variables tested are specific to Australian Rules Football
2. Select tests that are valid and reliable
3. Administration is rigidly controlled
4. Testing is repeated at regular intervals
5. Provide prompt and accurate feedback
6. Plan what you are going to do with the results

Which Types of Testing are specific to Australian Rules Football?

1. Sprint Timing 5, 10, 20 & 40mt
2. Shuttle Run or Time Trial
3. Vertical Jump
4. Body Composition
5. Maximum Strength
6. Anaerobic Test
7. Agility Test
8. Flexibility



Testing - which test, when?

- Pre-Xmas
- Wk1 - 3km/20m shuttle (beep)
- Wk 2/3 - sit-ups, push-ups, dips, max bench, max squats
- Testing Training Session
- Height, weight, body fat(if poss), 5m/20m speed, agility, vertical jump, 20m shuttle, flexibility
- Last week before Xmas - 3km

Testing

- Post Xmas
- 3km
- Speed
- Agility
- Max sit-ups, dips, push-ups, bench, squats
- Anaerobic power test
 - basketball court (time), oval (metres run)

In Season

- Max sit-ups, push-ups, dips, bench, squats
- Look at game data - tackles (effective, broken), handball receives
- ? Value of doing a 3km/beep test to see who is up to playing in the midfield → cost-next game etc

Testing

- Standards
- Good top age U/18 midfield player – 10:00-10:30mins – 3km under 11.45 others, 15+ in the beep test, 0.95 sec-1.05 – 5m sprint, > 3.00sec for 20m sprint
- Bottom age U/18 10:30-11:00mins-3km under 12.15mins others, 14.8 + beep test, 1.00-1.10sec – 5m sprint
- Obviously get own club standards as you progress (improvement of at least 30secs pre Xmas)

Anaerobic Power Test

- Test looking at a player's ability to complete repeated efforts
- Obviously vital for a midfielder
- One test on a basketball court (time in secs), one on the football oval (distance covered)

Fitness Testing Results November 2002

NAME:

Fitness Test	Your Result	Club Best Result	Club Worst Result	Average Result	Your Rank For Size (< 180)	Your Rank at Club
Vertical Jump	62	72	43	58	3/18	8/47
Agility	7.61	6.82	9.75	7.96	6/18	10/47
5m Sprint	1.10	1.01	1.35	1.15	6/16	14/47
20m Sprint	3.03	2.95	3.52	3.21	4/18	6/47
3km Time trial	10.49	10.19	13.24	11.23	7/17	8/48
Max Sit-ups	172	500	28	95	2/20	5/58
Max Push-ups	56	93	9	44	6/18	12/46
Max Bench Press (kg)	79.5	107.7	41.4	67.3	4/19	11/59
Max Bench Press /kg of Body Weight	1.21	1.28	0.60	0.92	1/18	3/49
Skinfold	34.5	31.5	81.5	48.7	3/16	5/46
Sit and Reach	19.5	22	-8.5	10.4	2/18	5/47
Height	175	198	167	181.8	11/20	50/59
Weight	66	89	56	73.8	14/19	44/51

Examples of Training Sessions

- Hill Sessions
- Fartlek sessions
- Intervals
- Speed endurance
- Repeated efforts
- Pure speed
- Core stability
- Weights
- Rehab programs
- Bike
- Swim
- Medicine Balls
- Boxing

Adjuncts to Training

- Swiss balls
- Agility ladders
- Acceleration ladders
- Plyometric boxes
- Pulleys
- Tyres
- Wobble boards
- Hand held weights

