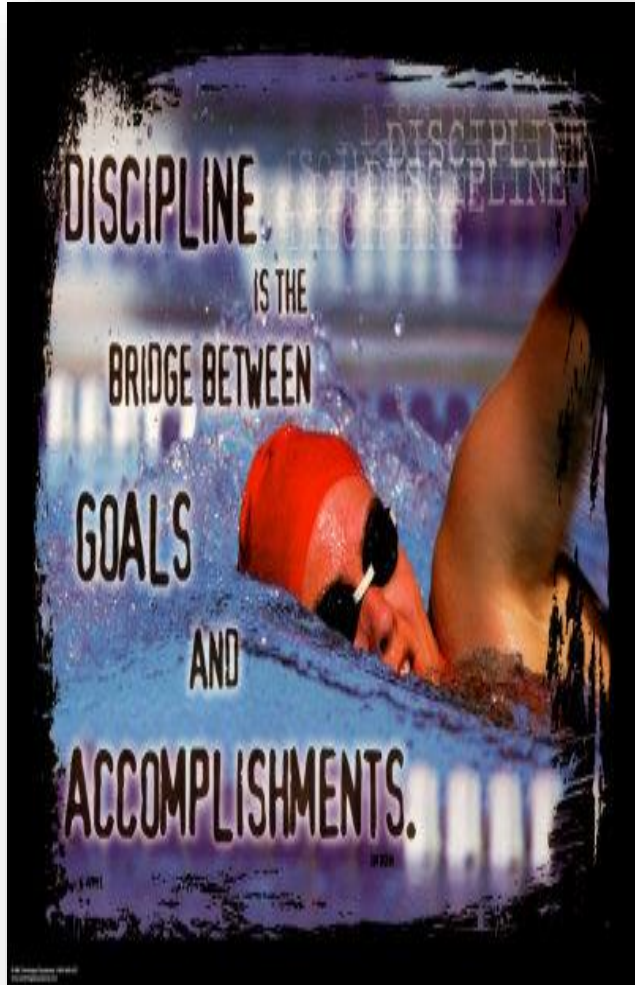# Testing/Monitoring

F.P.Furniss

Overview

- The training environment
- Inhibiting progress
- Build a solid base identify strength/weakness
- Why we test and monitor
- Testing/monitoring essentials
- Test sets / Testing areas
- Progression
- Testing /Club criteria

The Training Environment (Consistency is the key)

- Volume – Intensity – skill/efficiency – pressure
- Other components – W/UP – S/D – Pre –Post
- Age 40/50k – Youth 55/60k+
- Formative years – broad range of outcomes
- Squad criteria based on the above
- Process driven
- Psychological aspects – values/cornerstones/comp
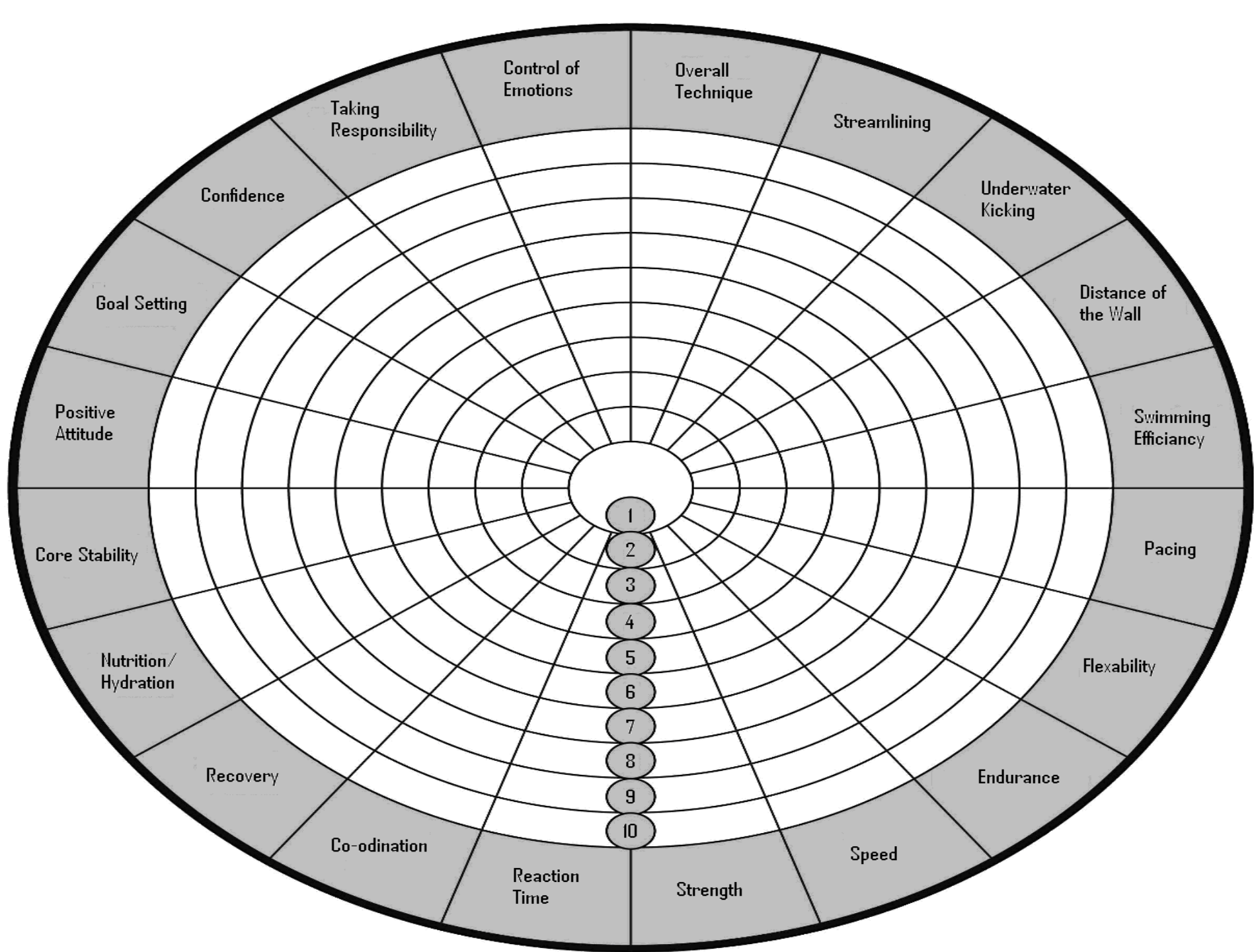
Inhibiting Progress

- Lack of understanding the progression of training from Novice – Age – Youth – Senior
- The types of delivery for each phase, our coaching style.
- Principles of progressive overload
- The focus on a sprint based//anaerobic type programme at an early age
- Focus on non Olympic events schedule ?
- Lack of a progressive competition programme that's age/event related

Identify Strength/Weaknesses

- Awareness
- Major changes – when
- Use of test sets to better the weak areas
- Re-visit
- I/M weakness

Control of Emotions

Overall Technique

Taking Responsibility

Streamlining

Confidence

Underwater Kicking

Goal Setting

Distance of the Wall

Positive Attitude

Swimming Efficiancy

Core Stability

Pacing

Nutrition/ Hydration

Flexability

Recovery

Endurance

Co-odination

Speed

Reaction Time

Strength

1
2
3
4
5
6
7
8
9
10

Why we test and monitor

- Will determine if cycles are on track to deliver the specified outcome
- Testing at set times in the annual cycle will show improvement or in some cases regression
- Will determine aerobic/anaerobic fitness levels
- Will teach/promote efficiency
- Will teach/promote pace awareness
- Will identify fatigue, rest/recovery
- Will promote 4 stroke development
- Will promote fast/streamlined starts/turns
- Will promote effective logging and recording

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Why we test and monitor

- Analyse – outside of competition
- Update – intensity levels/training times
- 6 – test –collate-analyse-discuss-disseminate-implement
- Interpret data – when/where in cycle

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Testing/Monitoring Essentials
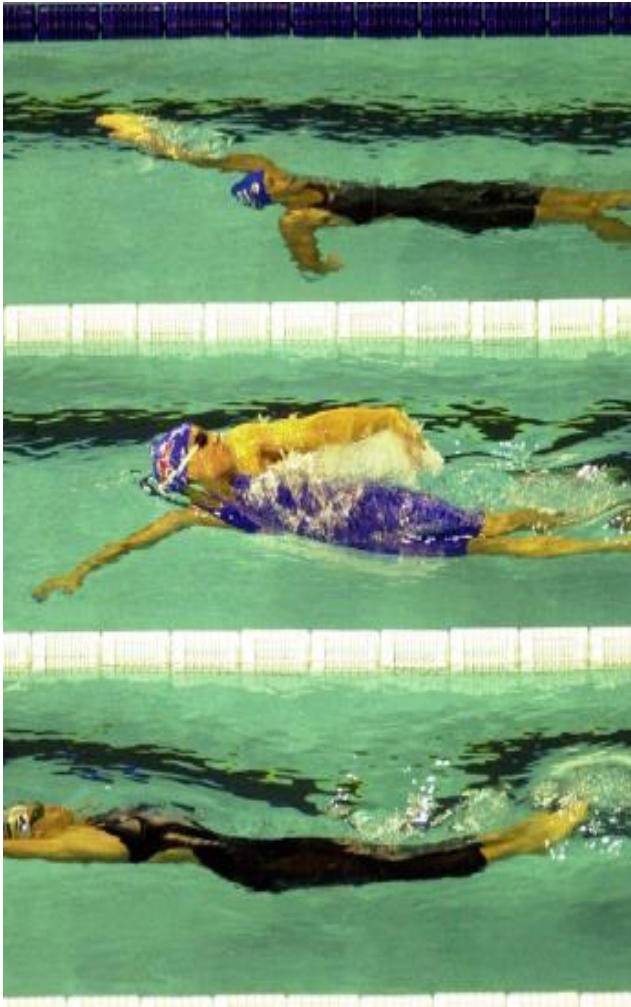
- Physical/technical consistency
- Aerobic efficiency , technique, speed under pressure should be gradually progressed
- Progressive testing, through the annual cycle, year on year
- Age – Youth –Senior differences

Testing/Monitoring Essentials

- Training – testing biological age

- PHV – G12/14   B 13/15   ROM

- Age – weekly 70/80% Aerobic – 15% R/P - 5/10% speed

- Early years test around –aerobic conditioning with high efficiency holding SC –SL-SR

- Fatigue – no significant changes to SC – no shortening SL

Test Sets

- Utilise testing or test sets to ensure that training is having the intended **specific** effect
  - Standard Tests
  - Standard training sets
  - Racing
    - Splits/SR's/Stroke Counts etc…

- All yield information that can assist the coach in assessing the effectiveness of the program

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Testing Areas

- Standard Tests
- Standard Training Sets
- Race Prep (knowing/understanding Splits/SR/SC
- Starts
- Turns
- Kicking Ability and conditioning
- Technical /efficiency

Progression-Adaptation-Overload

- Coaches need to regularly re-evaluate the base data used for Individualising Training Zones
  - As the swimmers level of conditioning improves (or decreases) training intensities must be adjusted accordingly for training to be effective.
- Therefore tests for:
  - Max Heart Rate
  - Resting Heart Rate
  - T20/T30
  - PB's – Racing/Time Trials
  - Lactates

Need to be written into the annual plan on a regular basis

Aerobic

- **5x200 Step Test**

    All swims even pace/splits. Descend by 4 secs on each 200 to goal time, start at PB +20 secs. Record times and heart rate. Aim to descend but promote efficiency to do so.

- **Double Distance Test**

    Swim 3 sets of 2x200, then 1x400 aim to achieve double the time on the 400.

    Eg Set 1 2x200 Target 2.30.0 /400 Target 5.00.0

    Set 2   Target 2.25.0 /400 Target 4.50.0

    Set 3   Target 2.20.0 /400 Target 4.40.0

    All swims even pace promote efficiency. Allow sufficient rest to achieve required outcomes, as swimmers progress reduce rest times. Record splits and heart rate to monitor improvements.

- **T20/T30**

- **Best Average Through a 4 week cycle**

    W1 – 4x500 on 7.30 Best Av

    W2 – 3x1000 on 13.30 Best Av

    W3 – 2x1500 on 22.00 Best Av

    W4 – 1x3000

Aerobic/Anaerobic Best Average

- Great set to include through the season, as the transition is made into the race pace/comp phase of the season more rest added, less repeats required.

- EG

Age group can alternate IM/best stroke/Free by test every 2nd week through cycles

10x100 with 10 secs rest maintain best average

200 loosen on 4.00

8x100 with 20 secs rest maintain best average.

Good set in morning workouts to challenge to be tough for early morning comp (Nationals)

Race Pace

- 200 Pace Prep Test (Twice per month cycle 2 and 3 in annual plan)

  3x (4x200) Broken at 50s on 4.00   (1 brk 1 Str)

  Set 1 5/5/5   - Add Splits

  Set 2 5/10/5   '   '

  Set 3 10/10/10   '   '

Example Sets 200PB 2.10.0

Lactate Production

10x50 on 2.30

Hold 2nd 50 Pace of 100PB

PB Time 1.00.0

Race Splits Out on 29.0

Back on 31.0

Target Time Hold 31.0

Training outcome

Development of anaerobic system

Lactate Tolerance

3x3x100 on 3.00 with 75 easy on 2.00 between sets.

PB Time 2.10.0

Race Splits Out on 1.2.0

Back on 1.8.0

Target Time Hold 1.8.0

To Hand Touch

Training outcome

Late season race specific pace work/tolerate race conditions

Race Speed

- Dive/Push
- Training outcome front end speed
- Effective transfer to stroke
- Training repeats 10mt to 25mt
- EG 8x25 as 15mt Max 10mt Easy on 1 30
- Work/rest ratio 4/5 to 1
- Calculating Speed Training Pace

EG 100 PB 60 minus 5secs 55secs

55 Divide by 4 for 25mt training time = 13.75

55 Divide by 5 for 20mt training time = 11.00

55 Divide by 10 for 10mt training time = 5.50

Specific Individual Medley

100IM/200IM Stroke Count Efficiency

- 100IM- Aim to hold SC of 8 BF,12Bk,8BS,12FS this is considered to be a good score and standard. For female swimmers you can add 2 to the above standards

- Aim to lift the values of the weak strokes to balance the values of the strong strokes, this should be done without gliding

- 200IM- Double the stroke counts of the 100IM and aim to swim them on the 200IM

- A simple guideline is 3 metres per stroke in BS and FLY, and 2 metres per stroke in FC and BK

Specific Individual Medley

400IM Stroke Count Efficiency

- Following on from the 100/200IM, the aim is to maintain DPS whilst increasing the overall distance. To achieve the desired stroke count over 400Im follow this progression

1) 400 as 4x100 IMs holding SC achieved on the 100mt test

2) 400 as 2x200IMs holding SC achieved on the 200mt test (or double the 100mt test)

3) 400 as 100 of each stroke holding same stroke count values (ie 4x100 count or 2x200 count)

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Starts/Turns/Finishes

- **<u>Speed Tests</u>**

<u>Starts</u>- 6x20 Mts from Dive time to 15mts as head passes the 15mt mark. Eliminate the fastest/slowest time to give your best average time.

<u>Turns</u>- Time through 5mts into turn/10mts out of turn for time.

<u>Rotation speed-</u> on wall F/C /BK swimmers time hand entry on final stroke into the turn to feet on the wall, (Target faster than 0.6). Fly and Breast swimmers time <u>hands to feet</u> on wall.

<u>Finishes</u>- 6x25 mts, Time from flags to wall, as head is on line with flags.

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Kick Sets

- **<u>Kick Tests</u>**
- 400 on 8min/300 on 6min/200 on 4min/100 on 2min

  Target is to equal splits on each kick. Set your starting pace at 20 secs of PB time for 100 swim for the 100 kick.

- Or timed 400 kick, the 2x200 holding the 200 split of the 400, then 4x100 holding the 100 split of the 200

- Or rotate through weeks 3x400/6x200/12x100

- Speed Kick Tests with fins/without

Kicking Ability

- Design sets that test the ability and effectiveness of underwater fly kicking, this test can be revisited throughout the training cycle to see if improvement is being made or held

- Initial test 12x50 Fly kick 4 on 1.25 /1.20 /1.15

  All timed look to hold consistent time, as cycle progresses reduce the rest 1.20/1.15/1.10

  Then 1.15/1.10/1.05, compare times and look for improvement.

Transfer To Stroke Skill

Push/Glide Efficiency

- Complete 3 push and glides, measuring distance and streamlining qualities

Push/Glide/Kick

- Complete 3 push offs, streamlining, fast fly kicking to 15mts, timed

Technical/Efficiency

- **8x50 Efficiency Test Set**
  Descend time on each of the 50s through the set.
  Target to reduce by 2 sec each 50 with the final swim at max effort, target for the final 50 within 1-2 secs of best time.
  Start aprox PB +15.
  Aim to hold constant stroke count as times get faster.
  All swims from push start.
  Realistic turn round time to achieve.

  As get better could go 3+10, 1+8,1+6,1+4,1+2, 1 best effort
  again aim to hold S/C as constant as possible even though swims are getting progressively faster

Technical Efficiency (I/M)

- Set of 12x100 (3 each stroke)
- The aim of the test will be as follows: On repeat 1 do 25 fast, count number strokes then 75 steady F/C. On repeat 2 do 50 fast trying just to double the number of strokes from repeat 1, then 50 steady F/C. On repeat 3 do 75 fast trying again to maintain the same stroke count per 25 as repeat 1 and 2, then 25 steady F/C
- The aim is to try to hold even stroke count under pressure, without too much deviation from this as the distance increases

Efficiency under pressure

1x400 FC hold PB+30 secs on 6min

2x200 " " above speed on 3 min

4x100 " " above speed on 1.30

8x50 " " above speed minus 1 sec on 45

Repeat the **above set twice**, add additional information, hold constant stroke count/rate, maintain underwater efficiency off turns

Testing And The Annual Cycle

- When

- Where

- How Often

- Test in relation to place in cycle

Testing For Criteria

Performance Squad A	B Squad	C Squad	D Squad
12x200 I/M on 3.30	16x100 I/M on 1.45	12x100 I/M on 2.00	8x100 I/M on 2.15
20x100 kick on 2.00	12x100 Kick on 2.10	12x100 Kick on 2.20	1x400 Kick timed
10x400 FC on 5.40 5 des 5 hold	10x200 FC on3.00 5 des 5 hold	8x200 FC on 3.30 4 des 4 hold	5x200 F/C on 4.00 Hold time kicks off wall
10x35 Best Av Speed	10x35 best Av Speed	8x35 Best Av Speed	Transition to 15mts