



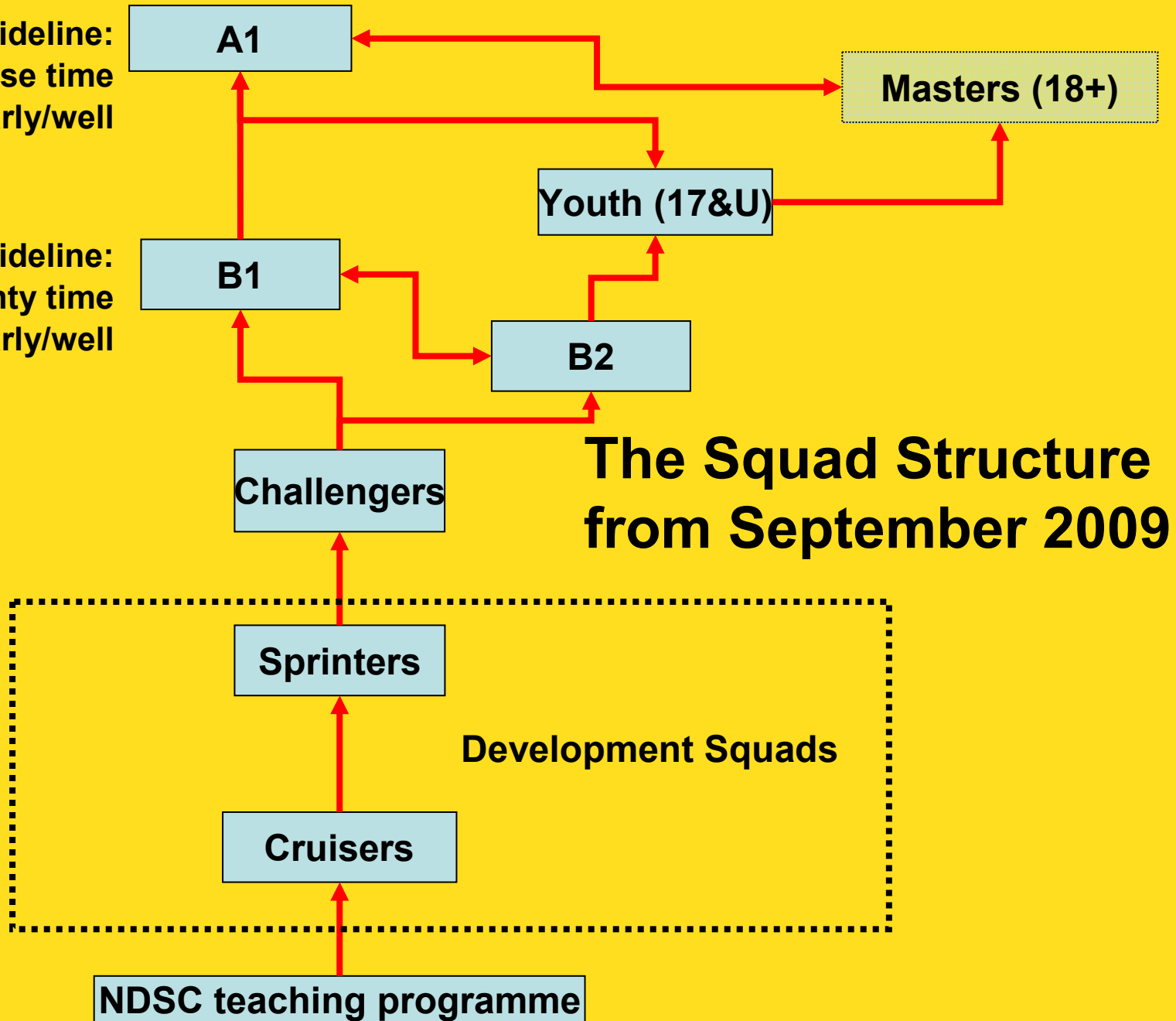
Newbury District Swimming Club

The 2009/10 Training and Competition Programme Derek Carley

- **Squad Issues:**
 - **structure and training times from September 09.**
 - **Election of Club Captains**
- **Training issues**
 - **Factors affecting swimming performance.**
 - **The Training programme**
 - **Technique – the essentials and misconceptions**
 - **Physical Conditioning:**
 - **The three energy systems**
 - **Training the energy systems – training zones**
 - **Nutrition**
- **The Competition programme**
- **Questions**

Entry Guideline:
regional base time
Train regularly/well

Entry Guideline:
200 IM county time
Train regularly/well



The Squad Structure from September 2009

Changes to Training times from Sept 2009

- **Replacement of swimming time following St Barts pool closure:**
 - Masters and Youth at Hungerford Monday 6 – 7 pm (already happening)
 - A& B squad 6-8am Saturday at Kennet
- **Youth squad replaces club squad**
 - Youth will swim Monday Thursday & Sunday (same as Masters)
 - Youth will have a swimmers coaching rep. who will work with the squad coach taking the session.
 - Youth swimmers move to Masters when they are 18
- **Friday pm A & B squad only: 5:30 – 7:30**
- **To alleviate crowding at Northcroft Sunday pm:**
 - Masters and Youth will swim at Kennet 7:15-8:30
 - Challengers:
 - Land training at Kennet 5:30 – 6:00pm
 - Swimming at Kennet 6:00 – 7:15pm.
- **Proposed changes: A squad – 2hr sessions Thursday & Sunday pm**

Club Captains

- **Junior Captains:**
 - **Coaches will elect girl and boy junior captains (no change)**
- **Senior Captains**
 - **Coaches will nominate (subject to them agreeing to stand):**
 - **up to 3 girl candidates**
 - **up to 3 boy candidates**
 - **NDSC swimmers 12 or over can vote for 1 girl and 1 boy from the lists..**
- **Elections to take place before the end of July 09**
- **New captains effective from September 09**

The Programme

Technique/Skills

Training

Technical Knowledge

Strokes

Starts/turns/finishes

Strength/Speed /Endurance

Logbooks/
records

Drills

Correction/
practice

Land

Swimming

Nutrition

Psychology

Circuits
Stretching
Weights

Long distance - endurance
Short distance - speed

Physiology

Technique and performance

- **Technique is the foundation of swimming performance BUT
All swimmers will swim differently – STYLE**
- **Style can be influenced by a number of factors including:**
 - **Physical build**
 - **Strength**
 - **Flexibility**
 - **Growth**
- **Swimming is a motor skill**
 - **Signal from brain Motor unit (motor neuron + muscle)**
 - **Practice results in an involuntary repeatable movement**
 - **Technique is acquired over a period of time.**
- **Technique is more difficult to change as you get older so.....**
 - **Think carefully about changing technique**
 - **The only reason to change is to improve efficiency**

Coaching Technique for Performance: some issues

- **My 'coaching philosophy'.**
 - **Coaching (swimming) is a science - embrace that or get left behind!!**
 - **Each swimmer is individual (Style) – swimmers are not clones!!!**
 - **The golden rule: maximise propulsion - reduce resistance**
 - **Compete to your strengths - train on your weaknesses.**
- **The detail:**
 - **Drills: for all squads- but appropriate drills for different squads.**
 - **Individual stroke/skills correction – for all but especially A squad swimmers**
 - **Technique/skills sessions: The core approach for development squads but occasionally also for the upper squads eg:**
 - **Sculling - The secret to swimming efficiency**
 - **Dolphin kick – the '5th stroke'. We need to do a lot of this!!!!**
 - **Starts & turns**
- **Put all of this into practice in the training sets!!!!**

Training (conditioning) and performance

- **Swimming training has two main functions:**
 - **Repeat fundamental movements – perfection of motor skills**
 - **Cardiovascular fitness – conditioning.**
- **Broadly speaking two types of training:**
 - **Anaerobic - sprint training**
 - **Aerobic - endurance training**
- **Age group swimmers need to follow an endurance based training programme (aerobic).**
 - **Building the engine**
 - **The window of opportunity (years leading up to puberty).**
- **Land training**
 - **Supplements swimming – but does NOT replace it**
 - **Body weight exercises pre puberty – emphasise core strength.**
 - **Weights introduced post puberty to develop:**
 - **Muscular power**
 - **Strength**

Energy Systems

- AdenosineTriPhosphate (ATP) is the chemical that fuels muscular movement
- ATP is produced in three different ways:
 - ATP – CP: Energy supply is Creatine phosphate (CP) stored in muscles
 - Rapid supply of energy ... but only for 10 or so seconds.
 - Sprinters have 'fast twitch' muscle fibres with a good supply of CP
 - Anaerobic Lactate (Lactacid): Energy supply is Glycogen (glucose). Incomplete breakdown of CHO without oxygen – 'Glycolosis'
 - Slower than ATP – CP but can last for several minutes
 - Waste product, lactic acid, eventually impairs Glycolosis – 'Acidosis'
 - Aerobic – complete breakdown of CHO or fat with oxygen.
 - slowest supply of energy but lasts many minutes/hours
 - main source of energy for endurance events
 - Endurance swimmers have predominantly 'slow twitch' muscle fibres
 - A well developed aerobic system delays the onset of acidosis.

SWIMMERS REQUIRE ALL THREE ENERGY SYSTEMS

Contribution of Energy Systems to swimming Events

Table 1. Approximate contribution of energy systems to competitive swimming event (adapted from Maglischo 1993).

Percentage of Energy System: Competition					
EVENT	DURATION	ATP-PC	LACTACID	AEROBIC: CHO	AEROBIC: FATS
50m	20-30 secs	50%	45%	5%	<1%
100m	50-70 secs	25%	65%	10%	<1%
200m	1.50-2.30 min	10%	50%	40%	<1%
400m	4-5 mins	5%	37%	55%	3%
800m	8-10 mins	4%	25%	65%	6%
1500m	15-18 mins	2%	15%	75%	8%

Training the Energy Systems: Training Zones

See note on web site under 'club swimming/club downloads/ training zones'

Zone	Zone 1			Zone 2	Zone 3		Zone 4			Zone 5	
divisions	A1	A2	A3	AT	Cr-Sp	MVO2	LT	LP	PL	HVO	SP
Heart rate: (BBM)	50-70	40-50	30-40	20-30	10-20	Max-10	Various – depending upon set				

Zone	Main Energy system /training effect	Typical training set	Work:rest
1	Aerobic / comfortable	20X100 f/c TT PB+15/16, RO PB + 30 (A2)	approx 6:1
2	Aerobic / stressful OBLA	20X100 f/c TT PB + 10/11 RO PB + 35 (AT)	Approx 5:1
3	Anaerobic Lactate /Very stressful	8X100 No1 TT PB + 8/9 RO PB +50 (MV02)	Approx 2:1
4	Anaerobic lactate / painful	8 X 100 TT PB+6/7 RO 6 min (LT) 8X50 TT PB+2/3 RO 3 min (LP)	approx 1:5 approx 1:6
5	ATP- CP /100% effort	10 X 25m TT PB, RO 3min (HVO)	approx 1:12

Training the Energy Systems: Individual Checking Speed (ICS)



- **What is the purpose of ICS:**
 - Originally a reference speed for assessing a swimmers current physical conditioning eg
 - Heart rate
 - Stroke rate
 - Stroke count
 - Blood Lactate
- **Definition:**
 - 100 PB +15 f/c back
 - 100 PB +20 breast, fly, IM
- ICS sits approximately within the middle of zone 1 (A2)
- ICS is now also commonly used as a reference for constructing sets eg
 - 8 X 100 f/c TT ICS -3 RO ICS +30
 - 10 X 200 N0 1 TT ICS, R30

Training: Keeping records

- **PBs – you need to at least know:**
 - **f/c/No 1: 50/100/200**
 - **Form: 50/100/200**
 - **IM 200**
 - **f/c kick 100/200/400**
 - **form Kick 100**
 - **Start and Kick to 10m**
 - **Start to 15m**
- **Weight**
- **Height**
- **Rest heart rate**
- **Maximum heart rate**
- **Stroke rate: stroke cycles per minute**
- **Stroke count: per 50m**
- **Weekly Training volume**

Technical Knowledge and Performance - Nutrition

DO

- **Maintain a high carbohydrate low fat diet**
 - **Pasta/rice/cereal/potatoes**
- **Eat something immediately after training**
- **Keep hydrated – water or well diluted fruit juice**
- **Sports drinks are good – albeit expensive**

Don't

- **Eat large quantities immediately before a race**
- **Consume huge quantities of sugar/Glucose before a race.**
- **Eat large quantities of fatty food – beef burgers, crisps chips etc - Non before a race as fat does not supply readily available energy.**
- **Suddenly change your diet – do it gradually**

Annual Training plan September 2009/August 2010

- **Cycle 1**

- **September 2nd (week 1) – December 21st (week17)**

- Emphasis on training rather than competition
 - Regain aerobic fitness
 - Largely IM based programme
 - Emphasis on drills and technique
 - Controlled increase of volume and Intensity

- **Cycle 2**

- **December 27th (week 18) – April 5th (week 32)**

- Controlled increase of volume and Intensity
 - More stroke/event specific training
 - Short taper for counties at end of cycle

- **Cycle 3**

- **April 12th (week 33) – July 26th (week 48)**

- Increase volume and Intensity
 - Increase event specific component
 - Taper for meets/regionals/Nationals as appropriate

- **August (weeks 49 – 52) reduced programme – R & R**

Competition plan Sept 2009/August 2010 (provisional)

• Cycle 1

• September 2nd (week 1) – December 21st (week 17)

- Club Championships
 - 3 main rounds Saturday/Sunday evening
 - 400/800/1500 Thursday/Sunday evening
- Speedo – 3 rounds
- L1/L2 Meet at end of cycle
- L3 Meet towards mid/end of cycle (gain county QTs)

• Cycle 2

• December 27th (week 18) – April 5th (week 32)

- Long/short course meets Jan/Feb
- Counties (March)
- Reading – End of cycle Easter meet (gain regional QTs)

• Cycle 3

• April 12th (week 33) – July 26th (week 48)

- Regionals/No Frills/Meets May (gain NQT)
- Regionals/NDSC/L3 meets June
- Fareham/Nationals July/August

Competition plan Sept 2009/August 2010 (provisional)

Update sept 09	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat			
Sep				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
					START																								AT										
Oct						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
																																					Half Term		
Nov			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							
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Sources of Information

Useful external sources of information:

- ASA web site – www.britishswimming.org
- ASA South East Region – www.southeastswimming.org
- Berks and South Bucks county ASA www.bsbasea.org
- Long Term Athletic Development (LTAD) – available on ASA web site.

NDSC sources of information:

- NDSC club data base
 - Members names address email address
 - Swimmer's competition times
- NDSC club web site www.ndsc.co.uk
 - diary of events page – for coming events and competitions
 - contacts page - for squad reps/committee members /coaches.
- Downloads – competition results
 - Club downloads page – ndsc swimmer's information:
 - Training downloads
 - The annual competition plan (provisional)

Questions?