

## iPerform *Coaching Series:* In Season Training



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# Introduction and Overview

- Training Theory
  - Objectives, Tasks, Principles, Variables
- Programming
  - Planning for competition
- Testing and Monitoring
  - Principles

# Training Theory

- Training Objectives
  - Increase performance
    - mRNA, translation, protein synthesis, altered tissue
    - Adaptation of Force velocity curve
    - Character development

# Training Theory

- Training Tasks
  - Multi Lateral Development
    - Neuromuscular fitness
  - Sport Specific Fitness

# Training Theory

- Training Principles
  - Progressive Overload
    - GAS
  - Specificity
    - SAID
  - Individualization

# Training Theory

- Variables of training
  - Needs analysis
  - Volume
  - Intensity
  - Rest
  - Tempo
  - Order
  - Exercise selection (efficiency)
  - Frequency

# Training Theory

- Variables
  - Needs Analysis
    - Sport / movement analysis
    - Athletic assessment
    - Training status
    - Primary goals

# Training Theory

- Variables
  - Loading schemes and parameters

GOAL	SETS	REPS	LOAD	REST	TEMPO
ENDURANCE	2-3	≥12	≤67	≤30SEC	4/2/1
STRENGTH ENDURANCE	3-6	6-12	67-85	30-90SEC	2/0/1
STRENGTH	2-6	≤6	≥85	2-5MIN	2/0/1
STRENGTH SPEED	3-5	1-3	50-80%	2-5MIN	X
SPEED STRENGTH	3-5	3-6	10-30%	2-5MIN	X



# Training Theory

RELATIVE INTENSITY CHART

	100	95	90	87.5	85	82.5	80	78.6	76.5	75	72.5	70
	1	2	3	4	5	6	7	8	9	10	11	12
VERY HEAVY	95	90	86	83	81	78	76	75	73	71	69	67
HEAVY	90	86	81	79	77	74	72	71	69	68	65	63
MOD HEAVY	85	81	77	74	72	70	68	67	65	64	62	60
MODERATE	80	76	72	70	68	66	64	63	61	60	58	56
MOD LIGHT	75	71	68	66	64	62	60	59	57	56	54	53
LIGHT	70	67	63	61	60	58	56	55	54	53	51	49
VERY LIGHT	65	62	59	57	55	54	52	51	50	49	47	46

# Training Theory

- Volume Load
  - Most important variable. Total work.

GOAL	VOLUME	LOAD	V*L
STRENGTH ENDURANCE	30 (3X10)	75%	2250
STRENGTH	15 (3X5)	85%	1275
STRENGTH	9 (3X3)	90%	810

# Training Theory

- Variables
  - Order
    - Technical, Power, Strength, Accessory
      - Importance, Focus, Large to small
  - Exercise Selection
    - Efficiency
    - Teaching / coaching ability
  - Frequency (Sessions)
    - Beginner 2-3
    - Intermediate 3-4
    - Advanced 4-7

# Programming

- Periodization
  - Logical and phasic method of manipulating training (variables and qualities) to achieve desired goals.
  - Reduction / management of fatigue
  - Peaking and summation of *qualities* for competition

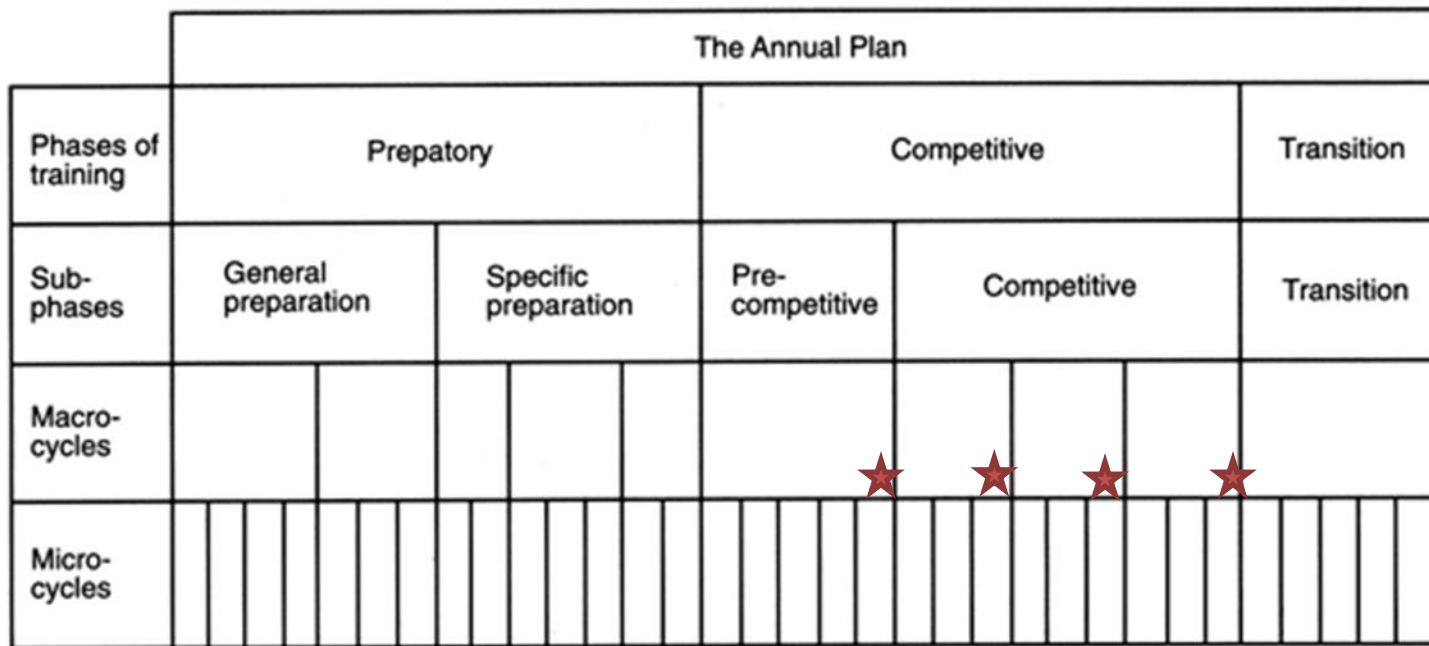
# Programming

- Periodization
  - Phases and sub phases
    - Preparatory
      - General
      - Specific
    - Competitive
      - Pre-Comp
      - Comp
      - Taper / Unload
    - Transition

# Programming

- Periodization
  - Cycles
    - Annual Plan
    - Macro Cycle
      - Large, 8+ weeks
    - Meso Cycle
      - Moderate, 2-7 weeks
    - Micro Cycle
      - Short, 1-2 weeks

# Programming - Macro



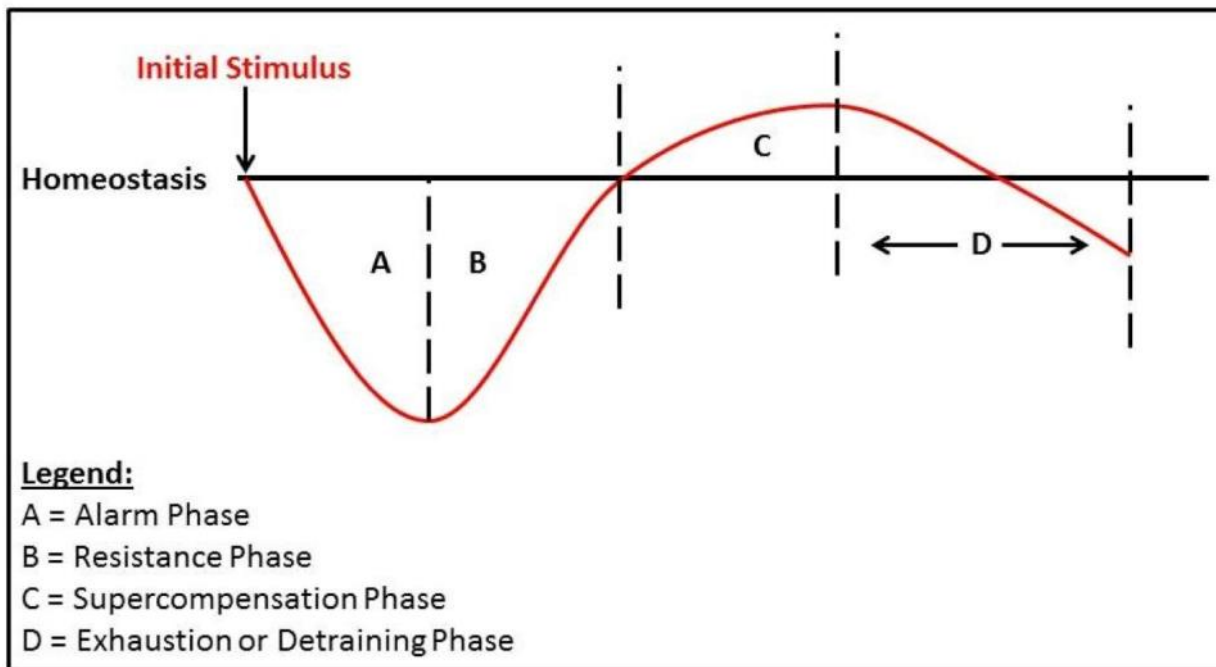
**Figure 8.1** Division of an annual plan into its phases and cycles of training





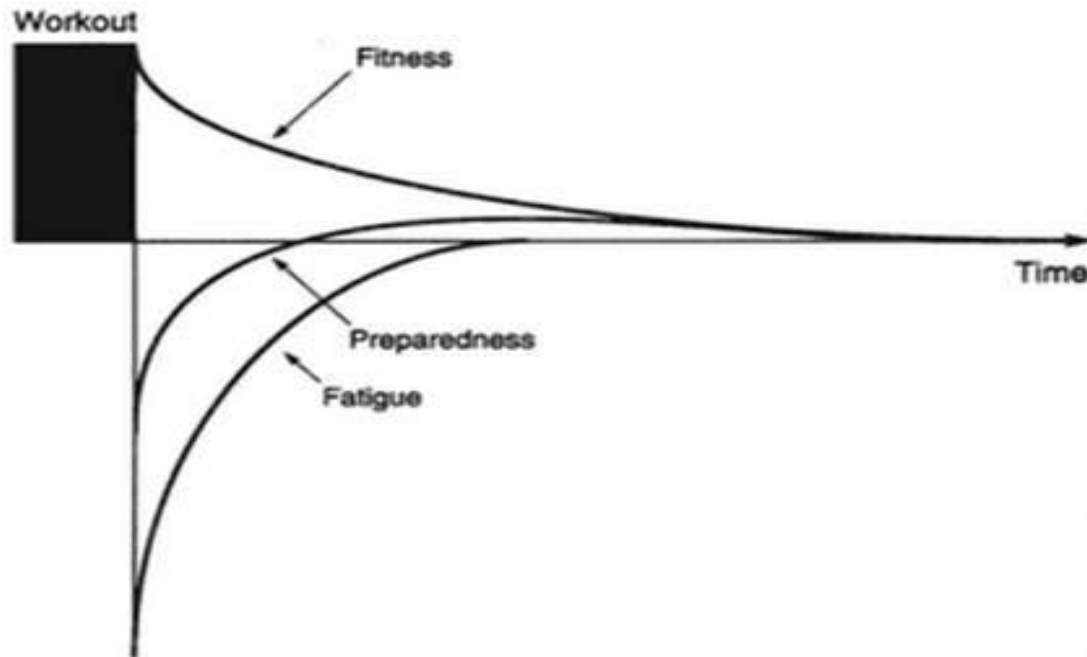
# Programming

- General Adaptation Syndrome
  - Single factor



# Programming

- Fitness Fatigue Paradigm
  - Multi Factor



# Programming - Example

PHOENIX BASKETBALL  
 GENERAL PREP - SUMMATED 1  
 WEEK 3/7

DAY 1	DAY 2	DAY 3
SMR	SMR	SMR
STRETCH	STRETCH	STRETCH
ACTIVATE	ACTIVATE	ACTIVATE
DYNAMIC	DYNAMIC	DYNAMIC
SQUAT 15	LUNGE 15	SQUAT 15
KNEE PULL 15	HEEL PULL 15	KNEE PULL 15
QUAD PULL 15	LAT LUNGE 15	QUAD PULL 15
RDL 15	KICKS 15	OH RDL 15
GRAPEVINE 15X2	SLIDE TO STRIDE 15X2	GRAPEVINE 15X2
CARIOCA 15X2	X2 15X2	CARIOCA 15X2
SID	LINE HOPS 10/10	SID
A MARCH 15X2	AGILITY HURDLES 6X2	A MARCH
A SKIP 15X2		A SKIP 15X2
HK 15		HK 15X2
BK 15		BK 15
BUILD UPS 5-10		BUILD UPS 5-10
BALLISTIC	AGILITY	BALLISTIC
SWING 5	4 CONE REACTIVE	SWING 5
SWING/STICK 5	7YD X4	SWING/STICK 5
THROW 2X5	3YD X2E	LATERAL 2X5
(W/JUMP)		(W/JUMP)

# Programming - Example

PHOENIX BASKETBALL 2014-15  
SPECIFIC PREPATORY - SUMMATED 4

DAY 1	WK 1	29-Sep	WK 2	6-Oct	WK 3	13-Oct
CG COMPLEX	1	45	1	45	1	45
SHRUG CLEAN	5	95	5	95	5	95
POWER CLEAN	3		3		3	
X 120°	3		3		3	
	3X3	165	3X2	175	3X1	190
FRONT SQUAT	5		5		5	
2.0.1 120°	5		5		5	
HIP MOBILITY	3X5	210	3X3	235	3X2	265
PUSH PRESS	5		5		5	
2.0.1 120°	5		5		5	
SHOULDER STABILITY	3X5	150	3X3	170	3X2	190
SL BB RDL	2X4E	95+	2X4E	105+	2X4E	115+
CHIN-UP	3X5	25+	3X3	35+	3X2	45+
SHOULDER COMBO	2X12	12-20	2X12	12-20	2X12	12-20
BODY CURL	20	BW	20	BW	20	BW

DAY 2	WK1	WK2	WK3			
SG COMPLEX	1	45	1	45		
OH SQUAT	5	95	5	95		
HANG POWER SNATCH	5		5			
X 120°	5		5			
	3X3	115	3X2	125	3X1	135
REVERSE LUNGE	5E		5E		5E	
2.0.1 90°	2X5E	115	2X3E	135	2X2E	155
BB UH ROW	10	10	10	10		
2.1.1 90°	2X10	115	2X8	135	2X6	155
DB ALT INCLINE	3X5E	50+	3X3E	60+	3X2E	70+
GRIR	3X8	25	3X6	35	3X4	45
DB SIT-UP	3X12	60+	3X12	60+	3X12	60+

DAY 3	WK1	WK2	WK3			
CG COMPLEX	1	45	1	45		
SHRUG CLEAN	5	95	5	95		
HANG POWER CLEAN	5		5			
X 120°	5		5			
	3X3	155	3X2	165	3X1	175
CLEAN PULL	2X5	185	2X3	200	2X2	215
BENCH PRESS	10	10	10	10		
2.0.1 120°	5	5	5	5		
	3X5	165	3X3	190	3X2	210
SL SQUAT	2X4E	50+	2X4E	55+	2X4E	55+
CHIN-UP	3X5	25+	3X3	35+	3X2	45+
POLIQUIN PRESS	2X12	12-20	2X12	12-20	2X12	12-20
ROLL-OUT	20	BW	20	BW	20	BW

CG COMPLEX: 3E RDL, JUMP SHRUG, HANG POWER CLEAN, FRONT SQUAT, PRESS  
SG COMPLEX: 3E RDL, JUMP SHRUG, HANG POWER SNATCH, BTN PRESS, OH SQUAT

# Testing

- Testing vs. Field Test
- Pre-testing, Mid-testing, Post-testing
- Principles of Testing
  - Validity
  - Reliability
    - Subject (knowledge, experience)
    - Raters (skill, knowledge, experience)
    - Test itself

# Testing

- Qualities / Components of Performance
  - Body composition / measurements
  - Movement analysis
  - Power
  - Agility
  - Speed
  - Maximum strength
  - Local muscular endurance
  - Anaerobic capacity
  - Aerobic capacity

# Testing

- Inferential Statistics - Analysis
  - Group Means
  - Standard Deviations
  - T-Tests (significant differences)
  - Correlations

# Testing

- Monitoring Training
  - Dose Response relationship
    - Life Stresses
  - Assess short and long term effects of training
- Monitoring dosage
  - Volume Load relationship to training status
- Monitoring Response
  - Training Logs (HR, Mood, Sleep)
  - Power (SJ, VJ, EUR)



# MONITOR - SRQ



## STRESS RECOVERY QUESTIONNAIRE

NAME \_\_\_\_\_

1. WEEKLY RPE (RATE OF PERCEIVED EXERTION) HOW HARD WAS THIS WEEK?

1	2	3	4	5	6	7	8	9	10
VERY EASY		MODERATELY DIFFICULT						CAR CRASH	

2. WILLINGNESS TO TRAIN? HOW WILLING ARE YOU TO TRAIN TOMORROW?

1	2	3	4	5	6	7	8	9	10
PLEASE NO		SURE						BRING IT ON!	

3. HOW WELL ARE YOU EATING BALANCED AND FREQUENT MEALS?

1	2	3	4	5	6	7	8	9	10
RARELY EVER		WHEN I REMEMBER						SPECIFIC DIET	

4. HOW WELL ARE YOU STAYING HYDRATED? COLOR OF YOUR URINE

1	2	3	4	5	6	7	8	9	10
SICK, ILLNESS, DEHYDRATED		YELLOW, 1-3X A DAY						CLEAR, 5+X DAY	

5. WHAT IS THE QUALITY OF YOUR SLEEP?

1	2	3	4	5	6	7	8	9	10
NO SLEEP		WAKE UP ONCE OR TWICE						DEAD TO WORLD	

6. WHAT IS THE AVERAGE LENGTH OF YOUR SLEEP?

1	2	3	4	5	6	7	8	9	10
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7. WHAT IS YOUR LEVEL OF SORENESS?

1	2	3	4	5	6	7	8	9	10
FEEL PERFECT		TIGHT AND ACHY						CUT IT OFF	

8. INDIVIDUAL COMMENTS / CONCERNS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Monitoring – RPE & Stress

PHOENIX ATHLETICS 2014-15  
POST-SEASON

4/7/14	RPE MEAN	DURATION	DAILY STRESS
DAY1	6	47	282
DAY2	5	30	150
DAY3	5	45	225
DAY4			
WEEKLY STRESS			657
STANDARD DEVIATION			66.20

4/14/14	RPE MEAN	DURATION	DAILY STRESS
DAY1	6	55	330
DAY2	5	45	225
DAY3	6	46	276
DAY4			
WEEKLY STRESS			831
STANDARD DEVIATION			52.51

4/21/14	RPE MEAN	DURATION	DAILY STRESS
DAY1	7	52	364
DAY2	6	45	270
DAY3	6	47	282
DAY4			
WEEKLY STRESS			916
STANDARD DEVIATION			51.16

4/28/14	RPE MEAN	DURATION	DAILY STRESS
DAY1	7	45	315
DAY2	5	35	175
DAY3	6	45	270
DAY4			
WEEKLY STRESS			760
STANDARD DEVIATION			71.47

# References

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# Questions?

Thank you!