

# Seasonal Plan Design

## Talk 2

*Presenter*

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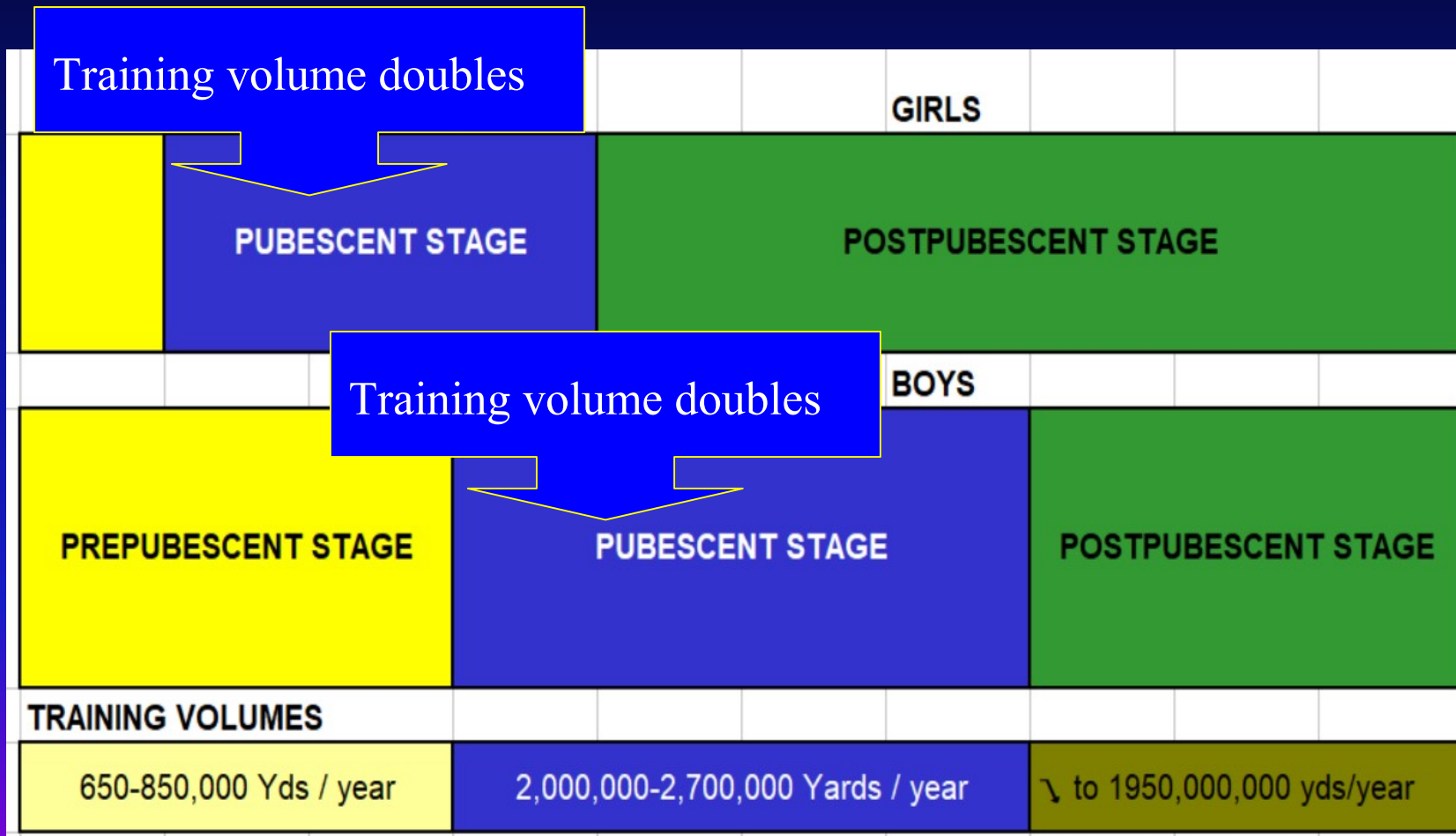
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# Preface

“By failing to prepare, you are preparing to fail.”  
*Benjamin Franklin*

“The greater the amount of time preparing the practice, and the more notes I make, the less I need them. In addition, I spend more time refining the workout and communicating with the athlete. My control is greater, and the athletes sense I am ready.”

# Physical Maturation And Volumes Of Training

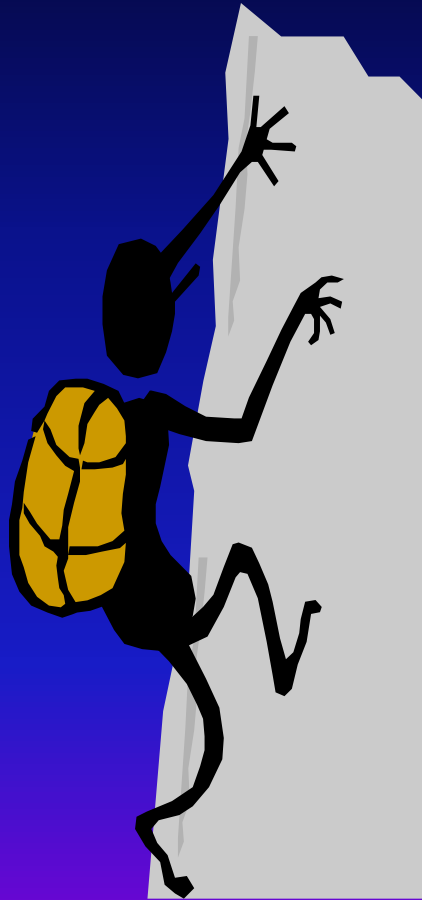


*Avdienko. V., Solopov, I. 2019*

# Type Of Work During Pre and Pubescent Stage

- Extensive aerobic training of moderate- intensity
- Refining swimming technique towards optimal
- This is the most effective stimuli for growth and functional development of the organism during these stages
- Harmonizes work of skeletal, cardio-vascular, and respiratory systems *Åstrand , P.O. (1963), Eriksson, B.O. (1972)*
- Insufficient aerobic base training, poor swimming technique, and premature emphasis on high-intensity training leads to the early exit of “young champions” from competitive ranks *G. Sokolovas (2002)*

# Always Try to Reach the Minimum Effective Amount



You have to do enough of an activity to force an improvement or adaptation.

Avoid *twilight zone* where swimmers practice too much for it to be “recreational fun” but not enough to improve.

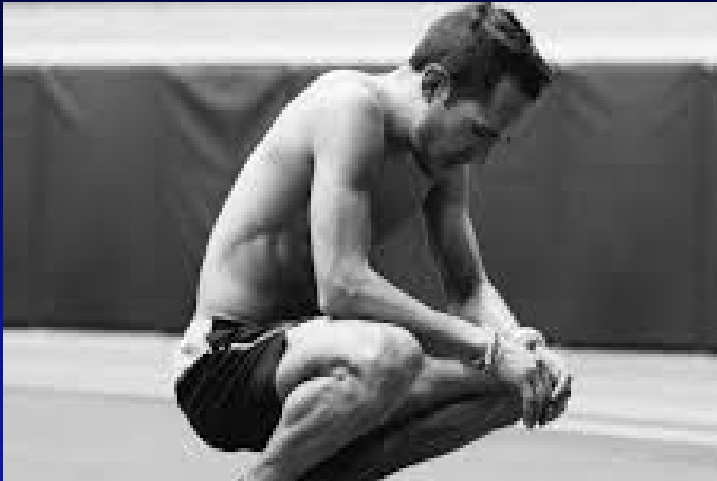
# Action – Reaction Law

An increase in training volume, use of exercises with greater intensity or resistance will lead to improvements in endurance and strength.



But... Don't try to do too much too soon

# Consider That



Prolonged training with excessively high impact and not enough time for recovery will cause a lack of improvement and over-training.



As long as swimmers keep swimming fast in practice, doing fast repeats, and show good effort, work them hard or harder up to the point at which practice performances begin to suffer

# Adaptation Limit

Performance improvements are not endless.

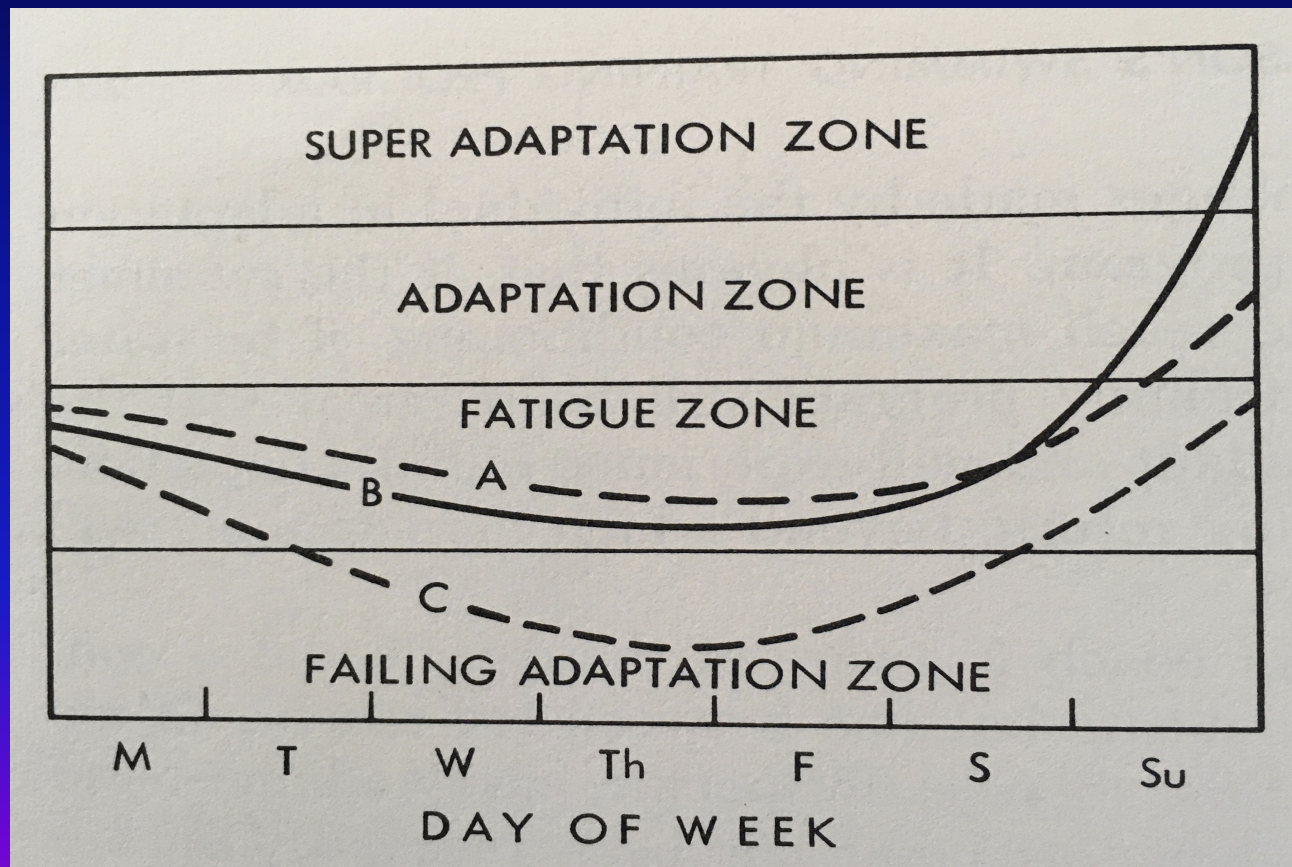
*Depending on the time frame, an athlete can reach Adaptation Limit in one practice, in one weekly cycle, or one training season.*





# Maximum Adaptation Chart

Stress, Fatigue, Adaptation and Super Adaptation

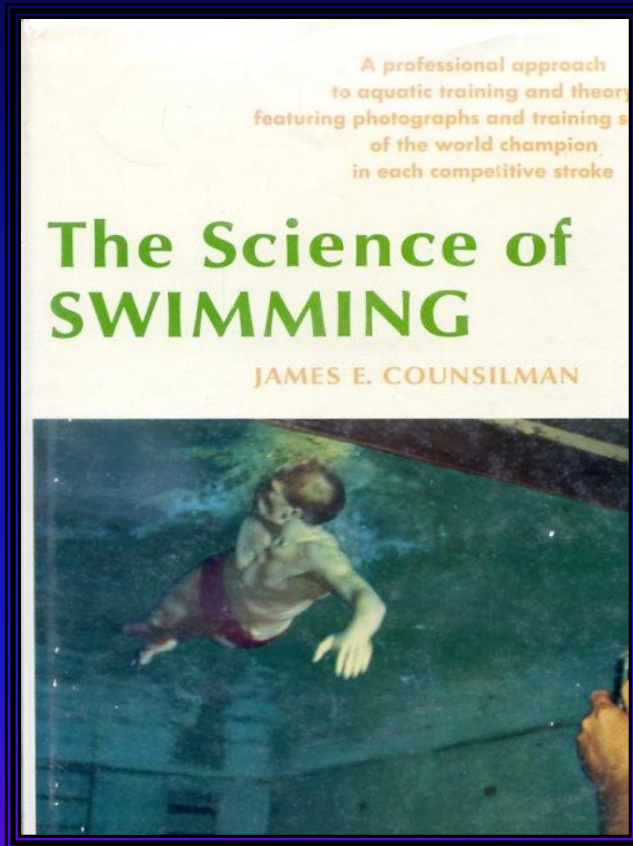


# Sample Year of AG Training

Training Phase	Time Of Year
Short-Course Season	
Pre-Season	Late August-September
Aerobic Build Up	October-mid-January
Quality	Mid-January-early March
Competition	Mid-late March
Active rest	Early April
Long-Course Season	
Pre-Season	Mid-April
Aerobic Build Up	Late April-mid-June
Quality	Mid-June to mid-July
Competition	Mid-July to early August
Active rest	Early to mid-August

# Essential Reading

(a lifetime of coaching wisdom)



The Science Of SWIMMING  
by Dr. James E. Counsilman



Developing Swimmers  
by Michael Brooks

# Information That Follows



- Is not in any one book
- Is a result of 30+ years of coaching, constant tinkering, and making a lot of mistakes
- Some ideas and know-how were gleaned from legendary coaches and sports scientists
- Is not a recipe, but a version of a process that helps you stack odds in your favor

# The Only Two Major Training Variables

1. Speed (How fast we swim)
2. Volume (How much we swim)



# Our Training Options (*Strategies*) *that lead to improvement*

1. Volume ↗      Speed ↔
2. Volume ↔      Speed ↗
3. Volume ↘      Speed ↗
4. Volume ↗      Speed ↗

# Training Strategy 1: Volume ↗ Speed ↔

- ◆ Training Characteristics
  - ◆ Trying to go longer with the same speed, progressively increase the distance from week to week across ALL Intensity Zones
  - ◆ *Best average* (early season) and after that *hold average pace* efforts
- ◆ Develops Capacity (“The Tank”), “the glue that *makes the hard easy*”
- ◆ Improves stroke economy and ability to hold speed
- ◆ Effective Duration: up to 16 weeks

# Placement in Seasonal Training Plan

Training Phase	Training Strategy
Short-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	
Competition	
Active rest	
Long-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	
Competition	
Active rest	



## Training Strategy 2: Volume ↔ Speed ↗

- ◆ Training Characteristics
  - ◆ Trying to go faster in the same sets, progressively increase speed from week to week across ALL Intensity Zones
    - ◆ *Best average efforts*
  - ◆ Develops power, the rate of energy production (“The Nozzle”), “*makes the hard faster*”
  - ◆ Improves maximal speed, specific endurance, LA tolerance
  - ◆ Because speed improves, the ability to hold it gets worse
  - ◆ Effective Duration: up to 4-6 weeks

# Placement in Seasonal Training Plan

Training Phase	Training Strategy
Short-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	2: Volume ↔ Speed ↗
Competition	
Active rest	
Long-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	2: Volume ↔ Speed ↗
Competition	
Active rest	

# Training Strategy 3: Volume ↘ Speed ↗

- ◆ Training Characteristics
  - ◆ “Sharpening”
  - ◆ Trying to go faster in sets that get shorter, progressively increase speed from week to week across ALL Intensity Zones
  - ◆ *Best average* efforts
- ◆ Develops Power, the rate of energy production (“The Nozzle”), “*makes the hard fast*”
- ◆ Improves speed
- ◆ Because speed improves, the ability to hold it gets worse
- ◆ Effective Duration: up to 3-4 weeks

# Placement in Seasonal Training Plan

Training Phase	Training Strategy
Short-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	2: Volume ↔ Speed ↗
Competition	3: Volume ↘ Speed ↗
Active rest	N/A
Long-Course Season	
Pre-Season	1: Volume ↗ Speed ↔
Aerobic Build Up	1: Volume ↗ Speed ↔
Quality	2: Volume ↔ Speed ↗
Competition	3: Volume ↘ Speed ↗
Active rest	N/A

# Training Strategy 4: Volume ↗ Speed ↗

- ◆ Training Characteristics
  - ◆ Trying to go faster in sets that also get longer, progressively increase speed from week to week across all the Intensity zones
  - ◆ *Best average* efforts
- ◆ Develops Endurance (“The Tank”) and Power (“The Nozzle”) at the same time, but not as much
- ◆ Improves endurance as well as speed
- ◆ Effective Duration: up to 6-8 weeks
- ◆ Because of its limited effective duration, it is well-suited for HS swim season, not a year-round program

# Putting It Together

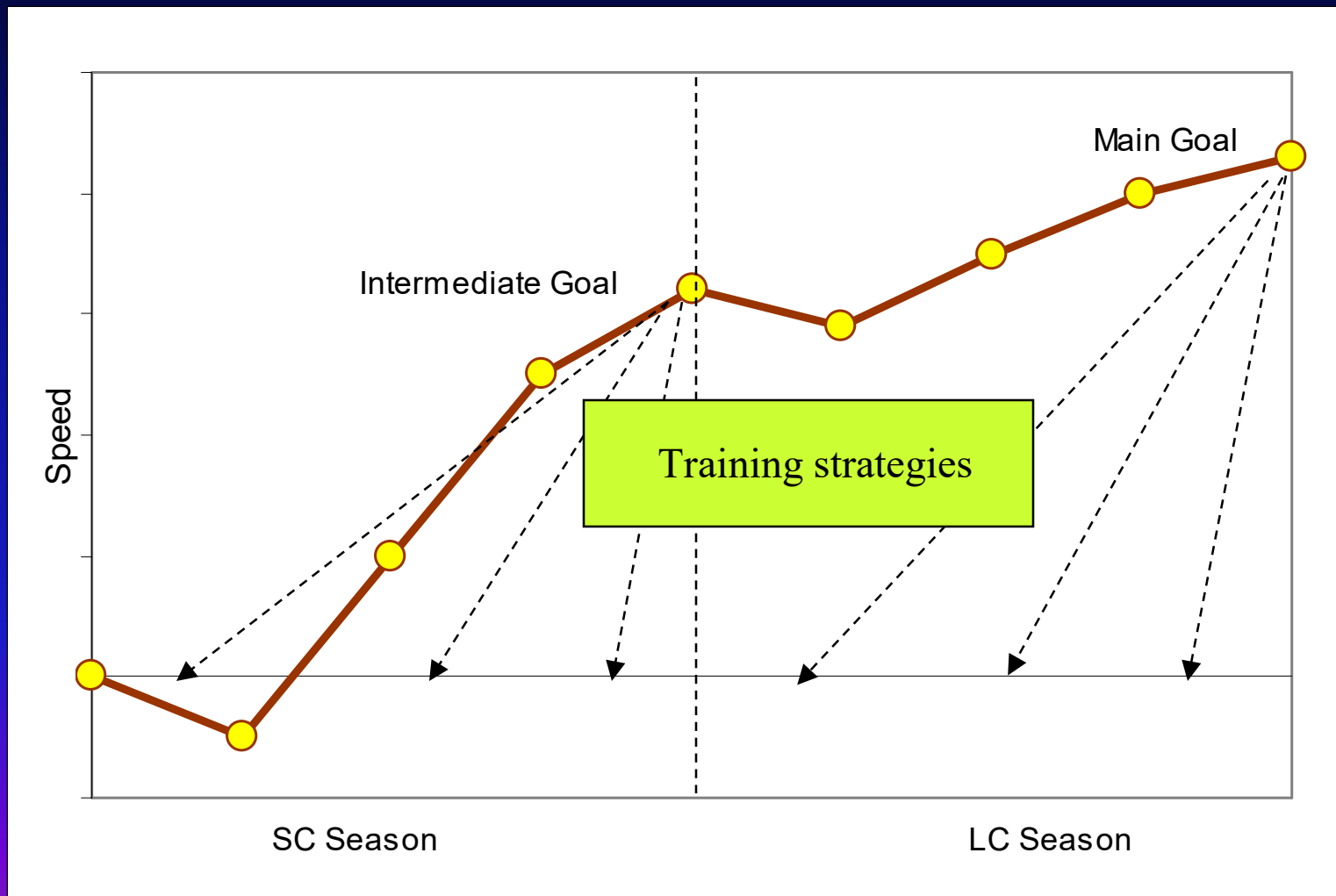
- Seasonal Plan
- Weekly Plan



# Variables to Consider Before Planning

- ◆ Available Pool Time
- ◆ # Of Swimmers in squads
- ◆ Their level, gender. and proficiency
- ◆ The general condition of swimmers now
- ◆ Baseline training background
- ◆ The length of the season
- ◆ The attitude of the group toward hard work
- ◆ The season-end competition events and distances

# The Main Thing Is to Keep the Main Thing the Main Thing





# Seasonal Plan Checklist

- Define seasonal goals (endurance, speed, and technique, skills, etc.)
- Choose the main meet
- Get length of the season
- Set total volumes in each intensity zone (based on swimmers' previous training history)
- Breakdown the workload for each week
- Select training/test sets to monitor progress in training



# How Long Is The Season

- Training Starts on April 2
- The Main Meet is on Aug 4  
(Junior Nationals / Sr  
Zones)
- **Duration: 18 weeks**



# Training Phases: how long?

- Strategy 1: 70%
- Strategy 2: 30%

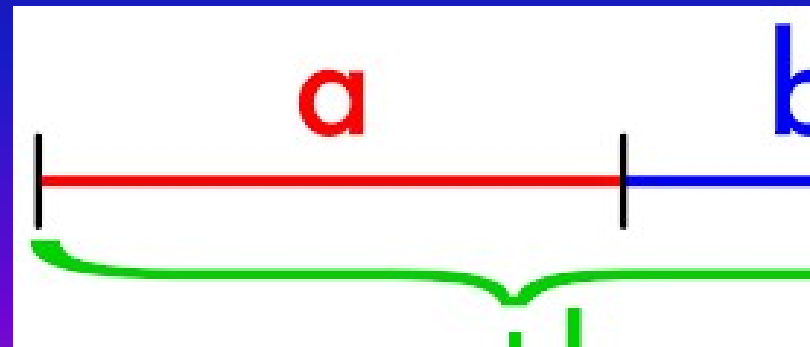
## In this case

[Pre-Season + Aerobic Build Up]:

$18 \times 0.7 = 12$  weeks

[Quality + Competition]:

$18 - 12 = 6$  weeks



# Training Volumes

- What was the highest weekly peak volume last season?
- Add  $\approx 5\%$
- 70% Rec-EN1, 30% everything else
- Set peak training week(s) in your season



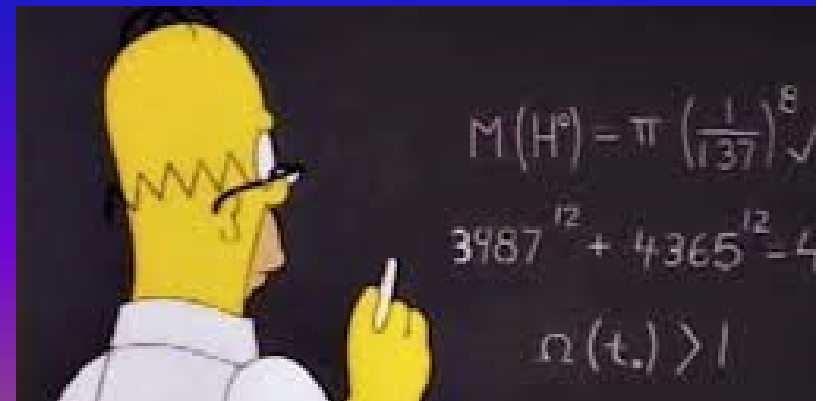
**just do it.**

# Recommended Training Volume % in Intensity Zones by Age

Intensity Zones	AGE				
	10	12	14	16	18
SP3	0.9%	1.0%	1.4%	1.6%	1.7%
SP2-1	1.5%	2.7%	4.6%	5.4%	6.2%
EN2-3	5.0%	7.3%	15.3%	20.3%	23.0%
EN1-REC	92.6%	89.0%	78.8%	72.7%	69.1%

# Training Volumes

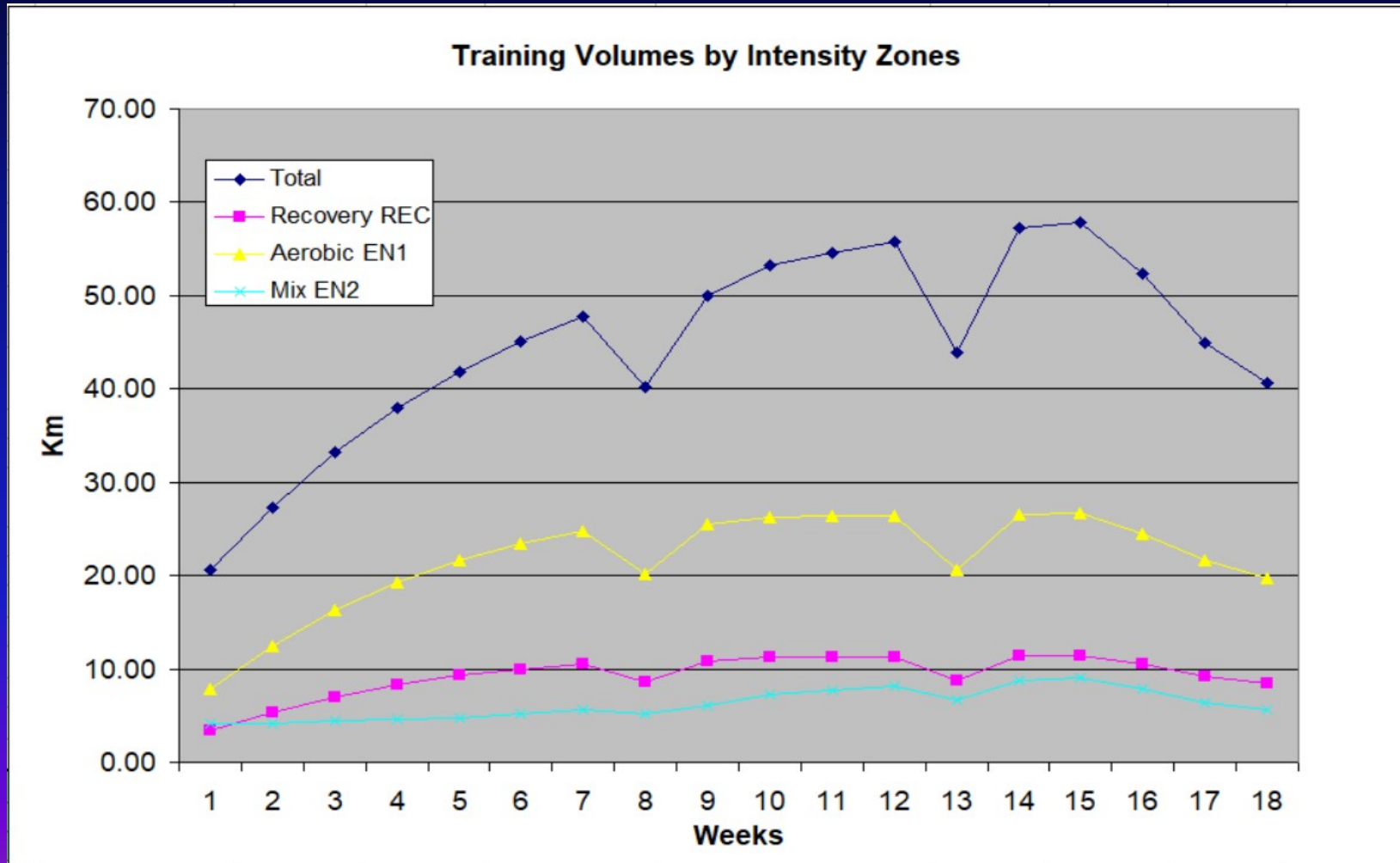
- Weekly volumes breakdown: work the slope back to week #1, and forward to week #18
- Aerobic work peaks about 3-4 weeks earlier than anaerobic [EN2-3 / Sp1-2, Sp3]
- Anaerobic training volumes creep up and hold steady until about three weeks out



# Seasonal Plan in numbers (Volumes)

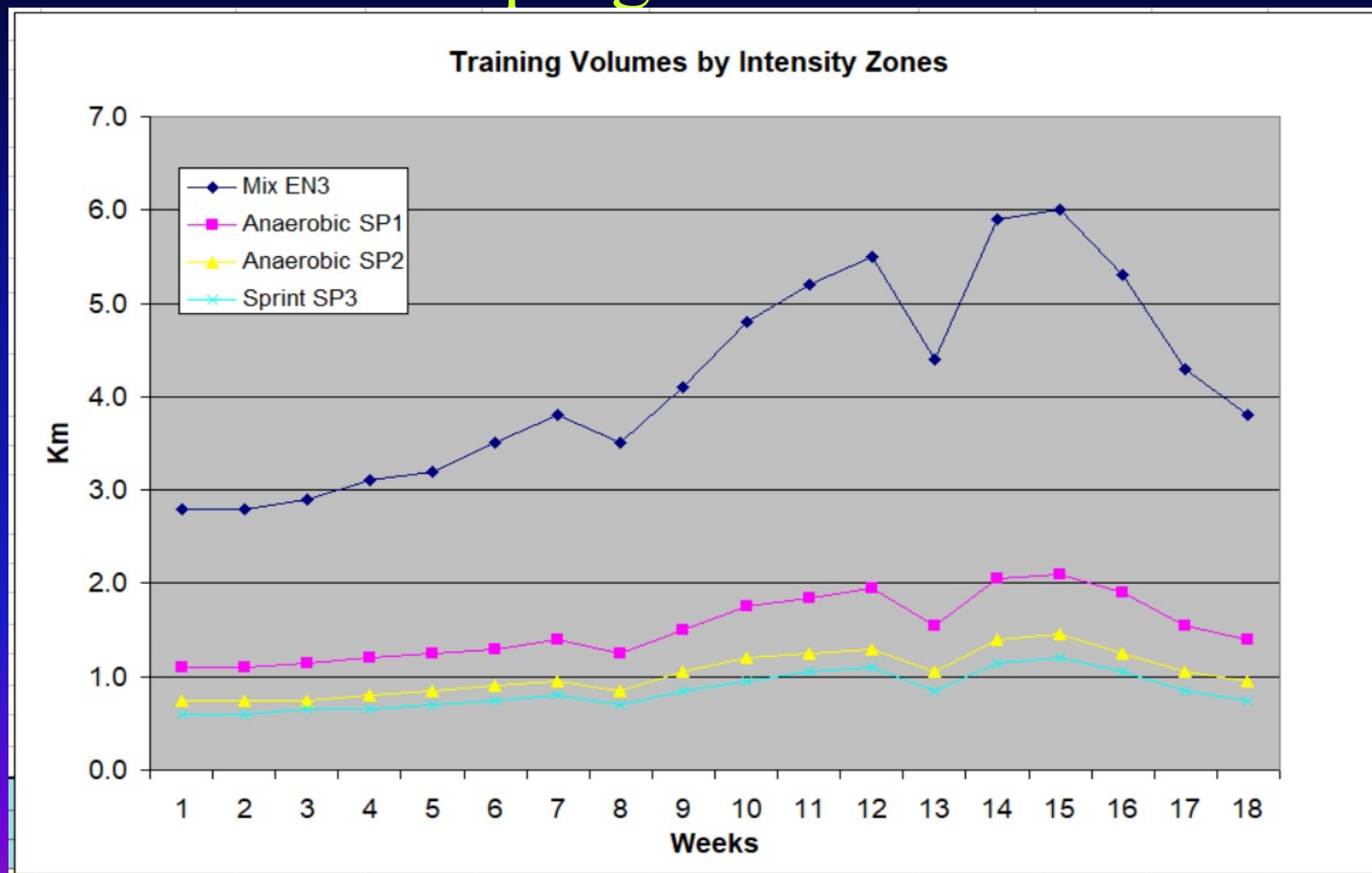
# of Week	Date	# of Workouts	Swimming Volumes(m)							
			Total	Recovery REC	Aerobic EN1	Mix EN2	Mix EN3	Anaerobic SP1	Anaerobic SP2	Sprint SP3
1	4/2/2018	5	20.65	3.4	7.9	4.1	2.8	1.10	0.75	0.6
2	4/9/2018	6	27.350	5.4	12.5	4.2	2.8	1.10	0.75	0.6
3	4/16/2018	7	33.15	7.0	16.3	4.4	2.9	1.15	0.75	0.65
4	4/23/2018	8	37.95	8.3	19.3	4.6	3.1	1.20	0.80	0.65
5	4/30/2018	8	41.80	9.3	21.7	4.8	3.2	1.25	0.85	0.70
6	5/7/2018	8	45.05	10.0	23.4	5.2	3.5	1.30	0.90	0.75
7	5/14/2018	9	47.75	10.5	24.7	5.6	3.8	1.40	0.95	0.80
8	5/21/2018	9	40.20	8.6	20.1	5.2	3.5	1.25	0.85	0.70
9	5/28/2018	8	50.00	10.9	25.5	6.1	4.1	1.50	1.05	0.85
10	6/4/2018	9	53.30	11.2	26.2	7.2	4.8	1.75	1.20	0.95
11	6/11/2018	10	54.65	11.2	26.4	7.7	5.2	1.85	1.25	1.05
12	6/18/2018	10	55.75	11.3	26.4	8.2	5.5	1.95	1.30	1.10
13	6/25/2018	8	43.85	8.8	20.6	6.6	4.4	1.55	1.05	0.85
14	7/2/2018	10	57.30	11.4	26.6	8.8	5.9	2.05	1.40	1.15
15	7/9/2018	10	57.85	11.4	26.7	9.0	6.0	2.10	1.45	1.20
16	7/16/2018	9	52.40	10.5	24.5	7.9	5.3	1.90	1.25	1.05
17	7/23/2018	8	44.95	9.2	21.6	6.4	4.3	1.55	1.05	0.85
18	7/30/2018	8	40.60	8.4	19.7	5.6	3.8	1.40	0.95	0.75
			804.55	166.8	390.1	111.6	74.9	27.35	18.55	15.25
				20.73%	48.49%	13.87%	9.31%	3.40%	2.31%	1.90%

# Seasonal Total and Aerobic volumes progression





# Seasonal EN2/3, SP1/2, SP3 volumes progression



# Key Training/Control Sets & Meet Schedule

Date							
	MEETS	(N) X 25 @:30	R (N) X 25 @:40	(N) X 50 @1	R (N) X 50 :30 RI	(N) X 100 :30	(N) X 200 :30
4/2/2018							
4/9/2018	MAC INV						
4/16/2018		6				5	3
4/23/2018		6		6		5	3
4/30/2018	THILLS INV	6	6	6	4	5	3
5/7/2018		7	6	6	4	6	4
5/14/2018	CAT OPEN	8	7	7	4	6	4
5/21/2018	ZAJAC,CANADA	9	7	8	5	7	4
5/28/2018		10	8	9	5	8	5
6/4/2018		11	9	10	6	9	6
6/11/2018		14	12	11	8	11	7
6/18/2018	MT HOOD INV	15	13	14	8	12	7
6/25/2018	MEET OF CHAMPS	15	13	15	8	12	7
7/2/2018		16	14	16	9	13	8
7/9/2018		16	14	16	9	13	8
7/16/2018	SR SECTIONALS	8 X 25 /:30		6 X 50/1		4 X 100 :30RI	
7/23/2018	OSI STATE	8 X 25 /:30		6 X 50/1		4 X 100 :30RI	
7/30/2018	JR NATS/SR ZONES	8 X 25 /:30		6 X 50/1		4 X 100 :30RI	

# Weekly Plan Checklist

- Refer to the Master plan for volumes
- How did the last week go?
- # of workouts this week
- Define what skills need work
- Set daily training/technique focus
- Select key training/test sets



# Weekly Training Cycle example

## Week #6

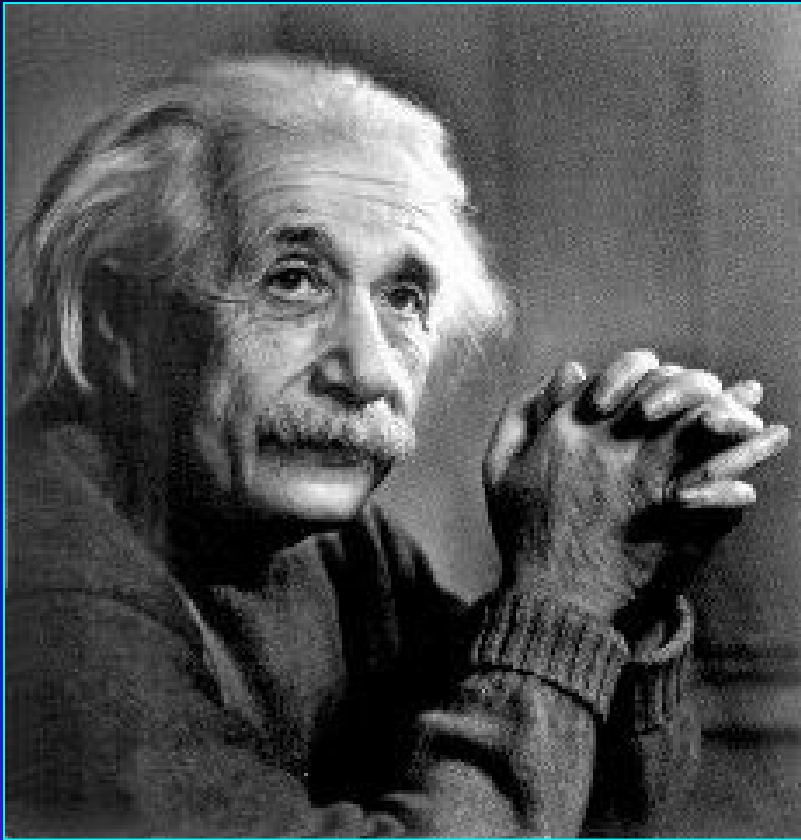
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	OFF	OVER-DISTANCE PULL, KICK, DRILLS	OFF	OVER-DISTANCE FREE-STK	OFF	QUALITY EN3-SP1-2 (IM STK) BROKEN, STRAIGHT
		POWER (schutes) cords resist / assist		POWER (schutes) cords resist / assist		RECOVERY
PM	DESC COLORS (200'S)	EN1 PULL, KICK, DRILLS	QUALITY EN3-SP1-2 (IM STK) BROKEN, STRAIGHT	DESC COLORS (50'S- 100'S)	OVER-DISTANCE FREE-STK, K-P-SW	OFF
		(STROKE IM) active rest -EZ / FAST @ P200	REC (FR-BK)		(STROKE IM) active rest -EZ / FAST @ P200	

# Weekly Plan, focus points

<b>Week 8</b>	<b>M</b>	<b>T</b>	<b>W</b>	<b>TH</b>	<b>FR</b>	<b>SAT</b>
<b>KICK</b>	BK	BR	IM	FR	FL	IM-WEAK
<b>PULL</b>	BR	IM	FR	FL	BK	FR-IM
<b>SPR</b>	IM	FR	FL	BK	BR	WEAK
<b>DIST</b>	FR	FL	BK	BR	IM	FR-IM
<b>DRILL</b>	FL	BK	BR	IM	FR	WEAK
<b>SKILL</b>	U/W	TURN	U/W	URNS	U/W	15 M
<b>WEEK 9</b>	<b>M</b>	<b>T</b>	<b>W</b>	<b>TH</b>	<b>FR</b>	<b>SAT</b>
<b>KICK</b>	BR	IM	FR	FL	BR	IM-MJR
<b>PULL</b>	IM	FR	FL	BK	FR	MJR
<b>SPR</b>	FR	FL	BK	BR	IM	MJR
<b>DIST</b>	FL	BK	BR	IM	FLY	FR
<b>DRILL</b>	BK	BR	IM	FR	BK	MJR
<b>SKILL</b>	U/W	DIVE	U/W	DIVE	U/W	15 M

# Some Personal Notes

- My entire coaching philosophy predicated on 400 IM as a central training focus. This event is a foundation for all other events.
- You don't choose the event; the event will choose you
- Double the distance of your best event and train to become a competent racer in it
- Delay training for a narrow event specialization as long as possible



Overemphasis of the competitive system and premature specialization on the grounds of immediate usefulness, kill the spirit on which all cultural life depends, specialized knowledge included.

*- Albert Einstein*