

Session I: Distance Running Training Principles & Cross Country Training

2010 ITCCCA Presentation
Coach Vicki Mitchell
University at Buffalo
Cross Country/Track & Field



OVERVIEW

◆ SESSION 1

- Principles of Training
- Training terms defined
- Cross Country training

◆ SESSION 2

- Training for 1500/3000 (1600/3200) and steeplechase
- Indoor and outdoor season planning
- Annual plan

5 Principles of Training

- ◆ The body responds to stress
- ◆ Specificity of Training
- ◆ Specificity of Overtraining
- ◆ Rate of achievement
- ◆ Diminishing Returns/Accelerated Setbacks

◆ THE BODY RESPONDS TO STRESS

- The body reacts to stress in a very predictable manner
- Acute responses include increase in HR, breathing rate, sweat rate,
- Chronic or TRAINING EFFECT from repeated bouts of exercise

◆ Muscles become stronger, greater blood flow and blood volume, stronger heart (greater Cardiac Output), great muscle efficiency

◆ Result is run faster with greater ease and less fatigue

◆ Specificity of Training

– The system stressed in training will be the system that benefits

◆ To become a better runner you must run. Employ cross training/supplemental training as appropriate, knowing that the majority of training needs to be specific to running.

◆ Long Runs do not help a sprinter/jumper, just as playing basketball won't help a marathon runner.

– Extends to training environment

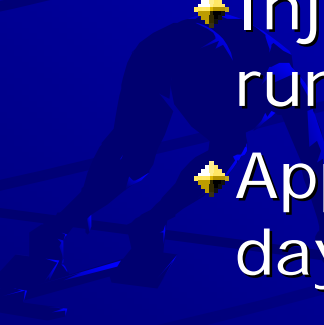
◆ Cross Country season: Run intervals on grass, hills, trails – become use to the surface

◆ Heat/Cold – practice to be prepared for environment

◆ Specificity of Overtraining

– Too much training of one system can negatively impact that system

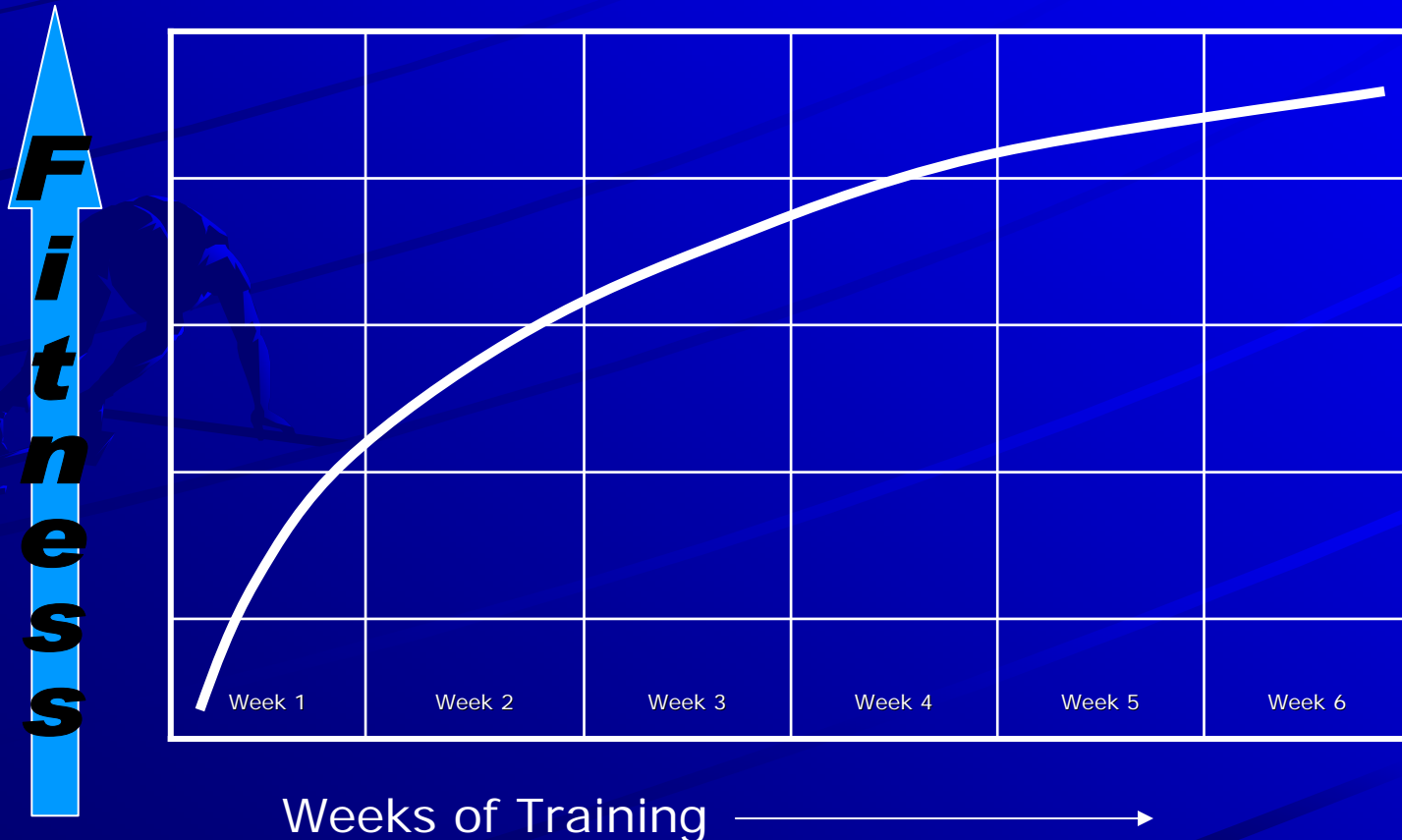
- ◆ Fatigue of system – but an overtrained runner may respond well other activities such as swimming or deep-water running.
- ◆ Injury such as stress fracture from too much running load (can usually cross train)
- ◆ Appropriately placed rest and recovery days/periods can help to avoid overtraining



◆ Rate of Achievement

– The body will adapt to a specific training stressor in a predictable manner:

- ◆ Rapid changes over first 3 weeks
- ◆ Slower changes over weeks 4 - 6
- ◆ Plateau after about 6 weeks



✦ Diminishing Returns/Accelerated Setbacks

- Increases in training loads produce greater training adaptations.
- As training load increases more and more, the gains are less and less
- Must consider the risks of setback versus benefits of higher training load

Training Terms Defined

- ✦ Many different terms used in various training programs
- ✦ Keys to remember when developing a training program:
 - What system(s) is being trained with this workout?
 - Answer: What are the benefits of this workout?

TRAINING PYRAMID



REPS

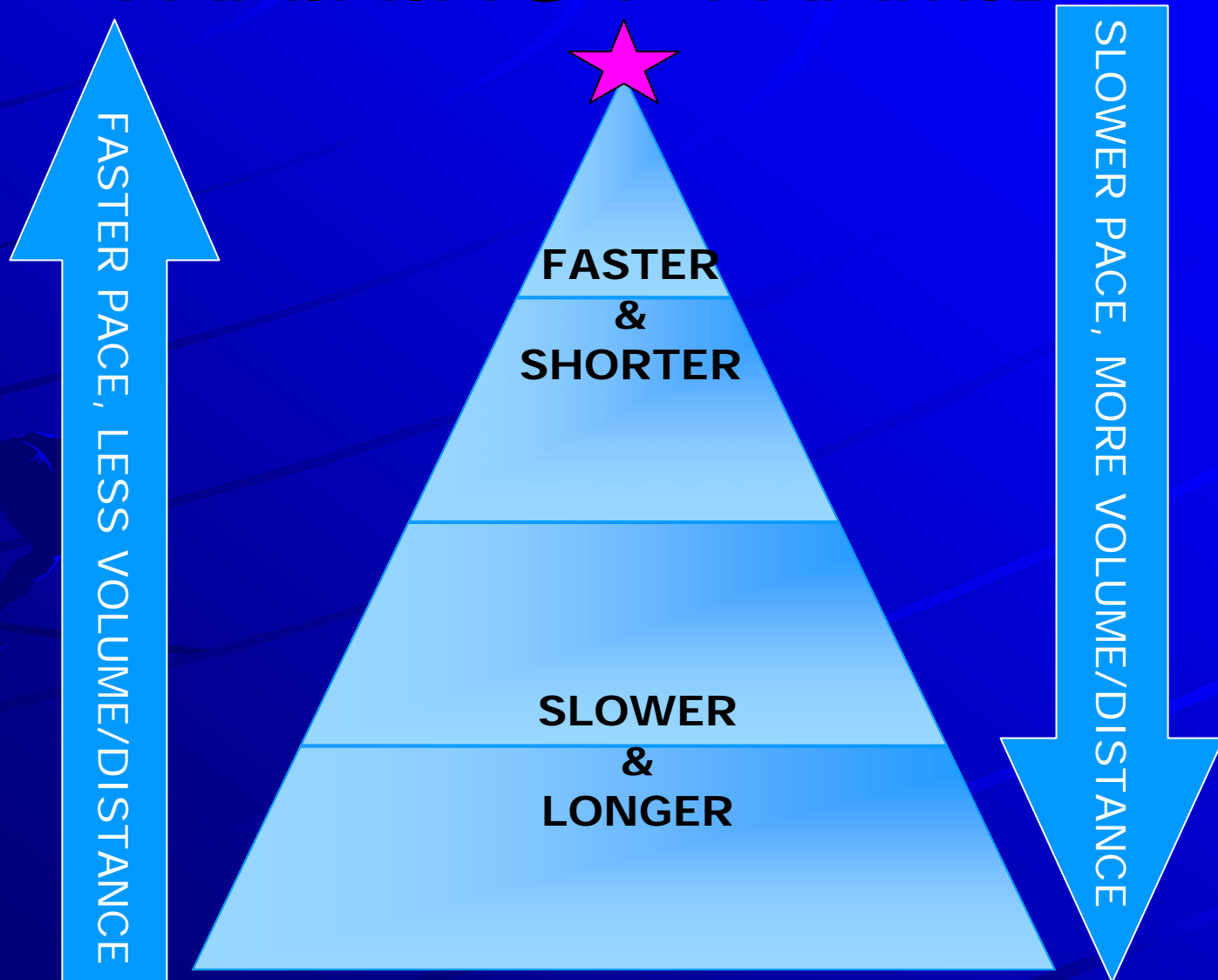
INTERVAL

TEMPO RUNS

ENDURANCE/EASY RUNNING



TRAINING PYRAMID



ENDURANCE / EASY RUNNING

◆ ENDURANCE RUNNING DEFINED

- PACE = 1:30/mile SLOWER than 5k race pace
- Aerobic, “conversational” pace, “easy” pace
- Not too slow, no junk mileage

◆ BENEFITS

- ↑ endurance, delays fatigue!
- ↑ blood, oxygen, and nutrients to muscles
- ↑ ability to make more energy without fatigue

◆ HOW MUCH

- Most of your mileage is easy/endurance running including warm-ups & cool-downs
- 20 minutes to 90 minutes

TEMPO RUNS

✦ TEMPO RUNNING DEFINED

- Pace = 25seconds/mile SLOWER than 5k race pace. NOT killer fast/hard
- Faster than “easy” running, but still controlled pace. “Comfortably Hard”
- You will feel like you could go faster, but don’t!!

TEMPO RUNS, con't.

✦ BENEFITS

- Improves LACTATE THRESHOLD – Limits that “burn” feeling that comes with racing
- The BEST workout! Improves fitness for racing with moderate intensity running. Great anytime of the year!

TEMPO RUNS, con't.

◆ HOW MUCH?

- Up to 8% of total weekly mileage
- 1 minute of rest per 1 mile run (or less)
- Example of 8% volume:
 - ◆ 20 miles/week = 1.5 miles
 - ◆ 40 miles/week = 3+ miles
- Time total goal: work up to 15 to 20+ minutes at Tempo Pace



TEMPO RUNS, con't.

– Examples of workouts:

- ✦ 5 x 800m w/30sec to 60sec rest
- ✦ 4 x 1200m w/1min rest
- ✦ 3 x 1mile w/1min rest
- ✦ 2 x 2mile w/2min rest
- ✦ 3 mile continuous run



INTERVAL WORKOUTS

◆ INTERVAL RUNNING DEFINED

- Pace = a little faster (5-10sec/mile) than 5k race pace
- TOUGH WORKOUT!
- Important to stay EVENLY PACED



INTERVAL WORKOUTS, con't.

✦ Benefits of Intervals

- Improves aerobic power (VO₂max): Run FASTER and LONGER
- Makes you mentally tough!
- Best early in Cross Country Season, never close to the end of season important races

INTERVAL WORKOUTS, con't.

✦ HOW MUCH?

- About 5+ % of total weekly mileage
- Jogging recovery of equal time (2mins hard = 2min easy jogging)

– Example of 5% volume:

- ✦ 20 miles/week = 1 – 1.5 miles
- ✦ 40 miles/week = 2 – 3 miles

INTERVAL WORKOUTS, con't.

– Examples of workouts:

- ✦ 8 x 400m w/1min jogs (BEGINNING)
- ✦ 4 x 1000m w/3:00 jogs
- ✦ 3 x 1600m w/4-5:00 jogs (ADVANCED)
- ✦ 5 x 3min hard w/3:00 jogs
- ✦ Hills:
 - 10 x 30sec w/walk-jog back down
 - 5 x 2min w/walk-jog back down
 - 10 x 1min w/walk-jog back down



REPETITION WORKOUTS

✦ REP RUNNING DEFINED

- Pace = CURRENT Mile Race Pace ability
- Quick, short distances with lots of jogging recovery
- Fun workouts!



REPETITION WORKOUTS, con't.

◆ Benefits of Reps

- Improves speed and efficiency (use less energy to run faster)
- Improves running mechanics/stride/form
- Important for track season!

REPETITION WORKOUTS, con't.

◆ HOW MUCH?

- About 5+ % of total weekly mileage
- Lots of recovery between each REP. Equal distance of recovery jogging (400m hard, 400m easy jogging recovery).
- Example of 5% volume:
 - ◆ 20 miles/week = 1 – 1.5 miles
 - ◆ 40 miles/week = 2 miles

REPETITION WORKOUTS, con't.

– Examples of workouts:

- ◆ 6 x 400m w/400m recovery jogs
- ◆ 16 x 200m w/200m recovery jogs
- ◆ 3 sets of (2 x 200m w/200m jogs + 1 x 400m w/400m jog)
- ◆ 10 x 300m w/300m jogs
- ◆ 10 x 40sec FAST w/1:20 jogs
- ◆ Hills:
 - 10 x 30sec up steep hill, or up very fast w/slow walk-jog back down (90sec recovery)
 - 8 x 1min up steep hill, or up very fast w/slow walk-jog back down (3min recovery)



★ TAG-ON ★

- ◆ Tag-on is an addition at the end of the workout
- ◆ Develops the CRITICAL ZONE: =SPEED and FINISHING STRENGTH
- ◆ It is SHORT, FAST, TOUGH!
- ◆ Examples:
 - 4 x 200m FAST w/30sec rest
 - 400m all out
 - 6 x 100m w/100m jogs
 - 4 x 150m build to sprints w/250m jogs
- ◆ WHY? The person that can close the race the fastest will win. Closing Speed must be practiced!

A Note on Mileage

- ◆ How much weekly mileage should you run?
 - Add about 5-8 miles/year to your peak
 - Rotate how much you run each week by 5 – 20%, lower mileage weeks build in recovery
 - How much is enough?
 - ◆ High School Women: no more than 45-50
 - ◆ High School Men: no more than 60
 - ◆ WHY? Longest race is only 5000m. Focus on quality of your runs, not bulking up slow junk miles

TRAINING for CROSS COUNTRY

- ◆ Start training plan at the END of the season (peak meets) and work backwards
- ◆ Divide Season into Phases based on 6-week planning
 - Phase 1: Summer Base Training
 - Phase 2: Early Season Training (start of practice)
 - Phase 3: Competition Season (duel meets, invites)
 - Phase 4: Championship Season (Regional, State, National meets)

◆ Weekly Plan:

- 2 to 3 quality (Q1, Q2, Q3) workouts per week

 - ◆ Intervals, Hills, Tempo, Fartlek, Rep, etc

- Include an element of “speed” on non-quality days

 - ◆ Strides

 - ◆ Hurdle drills/Form drills

 - ◆ Circuit Training

- 1 rest day or cross training day per week

◆ Season Plan: order of workouts

– Phase 4: Championship Season (3-wks) = 2 Quality Days

◆ Q1 = Race Day

◆ Q2 = Peaking workout to target race pace

– 3 x 800m @ XC race pace w/3min jogs + 3 x 200m @ rep w/200m jogs

– Phase 3: Competition Season (6-wks) = 3 Quality Days

◆ Q1 = League Race Day

– If racing hard, count at INTERVAL workout

– If 'easy' win, use as a TEMPO workout

◆ Q2 = Fartlek Session

– 10 x 1min hard, 1min less hard

– Ladder: 1min-2-3-4-5-4-3-2-1min with ½ time recovery

– Count Steps: 10H/10E, 20H/20E.... 100H/100E....10H/10E

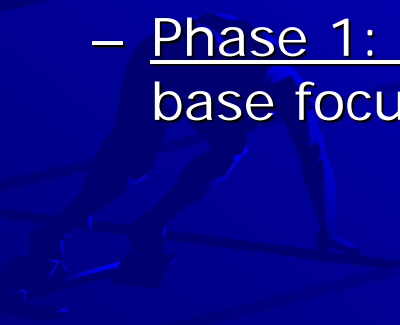
◆ Q3 = Invitational Race on weekend, OR Workout:

– Intervals if you did not race hard earlier in week

– Tempo + Reps if hard race earlier in week



- Phase 2: Early Season Pre-Competition (6-wks) = 2 Quality Days
 - ◆ Q1 = Hills (short & long, or if no hills available, flat rep workout on grass)
 - ◆ Q2 = Tempo Session
 - ◆ “Quality” Distance Run: a “steady” paced training run, about 30second faster than normal easy running pace, or described as, “moving at a good clip.” This is the ‘fast’ end of the easy training paces.
 - ◆ Put in “TEST” days as a time trial or race simulation
- Phase 1: Summer Base Training (6 – 10 wks) = aerobic base focus



Early Season/Pre-competition (6-wks)

Week	%Miles	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
#1	85%	Start of practice	Hill Repeats	Easy distance + 6 x 20sec strides	Cross Train or rest	Tempo Workout	Easy distance + 6 x 20sec strides	LONG
			Short (30 - 60sec) Core Ex.					
#2	100%	Easy Run	Time Trial - Q1	Easy distance + 6 x 20sec strides	Cross Train or rest	Tempo Workout Q2	Easy distance + 6 x 20sec strides	LONG
			3000m Core Ex.					
#3	85+%	Easy Run	Hill Repeats - Q1	Quality Distance	Cross Train or rest	Race Simulation 3000m @ 5k pace	Easy distance + 6 x 20sec strides	LONG
			Long 1-2min)(Core Ex.					
#4	90%	Easy Run	Hill Repeats - Q1	Quality Distance	Cross Train or rest	Tempo Workout Q2	Easy distance + 6 x 20sec strides	LONG
			Short (30 - 60sec) Core Ex.					
#5	100%	Easy Run	Hill Repeats - Q1	Quality Distance	Cross Train or rest	Tempo Workout Q2	Easy distance + 6 x 20sec strides	LONG
			Long (1-2min) Core Ex.					
#6	90%	Easy Run	Race Simulation	Quality Distance	Cross Train or rest	Tempo Workout Q2	Easy distance + 6 x 20sec strides	LONG
			2 x 1600m @ Race Core Ex.					

Competition Season (6-wks)

#7	100%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Easy distance + 6 x 20sec strides Core Ex.	Invite Q3	LONG
#8	90+%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Interval - Q3 Easy distance + 6 x 20sec strides Core Ex.	LONG	
#9	90%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Easy distance + 6 x 20sec strides Core Ex.	Invite Q3	LONG
#10	100%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Easy distance + 6 x 20sec strides Core Ex.	Invite Q3	LONG
#11	90+%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Interval - Q3 Easy distance + 6 x 20sec strides Core Ex.	LONG	
#12	90%	Easy Run Weight Room	League Meet Q1 Core Ex.	Fartlek - Q2	Cross Train or rest Weight Room	Easy distance + 6 x 20sec strides Core Ex.	Invite Q3	LONG

Putting it all together

Remember key Questions:

- ◆ WHY AM I DOING THIS RUN/WORKOUT?
- ◆ HOW IS THIS GOING TO BENEFIT MY TRAINING/RACING

Remember Training Principles & Pyramid as basis of plan

- ◆ EASY Runs should be the base of your training program.
- ◆ TEMPO runs are good 1 time per week during the summer and fall season.
- ◆ INTERVAL workouts are good to develop power and strength needed in cross country and longer track events
- ◆ REP workouts are needed to improve running efficiency
- ◆ Work to develop your CRITICAL ZONE ability. Know your strengths, and develop weaknesses

Coach Vicki Mitchell

University at Buffalo

Cross Country/Track & Field

EMAIL: vam3@buffalo.edu

PHONE: [716-645-6815](tel:716-645-6815)



RUN STRONG
TRAIN SMART
HAVE FUN

