



Summer Training 2020

Pitt Club XC

Why summer training?

- Pre-season distance run training improves $VO_2\text{max}$ in high-school cross-country runners... (Cole, Horn, and Mahon, 2004)
- It works... “Endurance exercise training results in numerous adaptations to the neuromuscular, metabolic, cardiovascular, respiratory and endocrine systems.” (Jones and Carter, 2000)
- Transition phase (May-August) is important: “a runner must properly utilize the transition phase a period of training for recovery and progressive development prior to the competitive season.” (Kurz, 2000)



- Hill training is your friend over the summer: “Hill training during the transition phase may be an effective training method to lower chance of injury during the season, and further develop the needed musculature for anaerobic and aerobic power.” (Kurz, 2000)

Example Schedule:

	Intermediate Male	Beginner Male	Intermediate Female	Beginner Female
Week 1; June 1	30	25	25	20
Week 2; June 8	40	34	28	22
Week 3; June 15	50	40	31	25
Week 4; June 22	35 (<i>off</i>)	30 (<i>off</i>)	20 (<i>off</i>)	15 (<i>off</i>)
Week 5; June 29	55	42	34	28
Week 6; July 6	60	48	37	30
Week 7; July 13	65	54	41	33
Week 8; July 20	40 (<i>off</i>)	35 (<i>off</i>)	30 (<i>off</i>)	20 (<i>off</i>)
Week 9; July 27	65	55	45	36
Week 10; August 3	70	60	50	39
Week 11; August 10	72	65	52	40
Week 12; August 17	45 (<i>off</i>)	40 (<i>off</i>)	35 (<i>off</i>)	25 (<i>off</i>)

Please remember that this is meant to be a guideline, take rest when you need it or run more if you're comfortable doing so. It's important to listen to your body because only you know what works best for you!

Example week, third phase: 71 miles

Monday: 7 mile AM; 4 mile PM shakeout

Tuesday: 9 mile AM w/ hill sprints integrated

Wednesday: 8.5 mile recovery

Thursday: 7 mile AM; 4 mile PM shakeout with grass strides

Friday: 9 miles easy

Saturday: 3 mile warm up, 10 mile steady-state run, 2 mile cool down

Sunday: 7.5 mile recovery

How to Train:

- Look at it in three phases:
 - Yellow: Reintroduction Phase
 - Run 5-6 days a week, no workouts, long run 8-12 miles.
 - Green: Build Phase
 - Run 6-7 days a week, introduce hill workouts, long run 9-14 miles.
 - Blue: Fitness Phase
 - Run 7 days a week, introduce doubles if need be, introduce tempo workouts and steady-state runs, long run 10-16 miles.
- Make rest and recovery the focus:
 - Summer training should be planned around getting proper rest. You don't want to show up in September burnt out of running — make sure your training plan is sustainable and don't overtrain.
 - Off weeks:
 - These are flexible, just make sure you have at least one per phase, can work around vacation / traveling etc.
 - Not completely off: don't go without running for 3+ days or you'll lose fitness.
 - Use dynamic stretching in your pre-run / post-run routine — it brings blood into your muscles' capillaries before running.
- Introduce doubles:
 - May be necessary during third phase
 - 11 mile day example: AM 4 mile shakeout, PM 7 mile regular run.
 - Make sure there's at least four hours between doubles in order to get the benefit.
- Add post-run striders (8-10 x100m)
 - You won't see the benefit now but you'll thank yourself in the fall
 - Try to find a grass field and run without shoes when you can
- Run with friends:
 - Training partners keep you accountable and motivated.

Example Workouts:

- 6-8 x 20 second hill sprints, jog to the bottom of hill as rest
- Steady-state runs: 30-75 minute runs at a sustained "medium" pace, around 80-85% of max effort
- 150m striders on grass or soft surface, 60 seconds rest
- 4-5 mile runs at tempo pace

McMillian's Run Training Zones:

Training Zone	% of Max HR	Goal	Adaptation
Endurance Zone	60-75%	Build to endurance	Fewer heartbeats are needed to deliver blood to the working muscles.
Stamina Zone	75-90%	Push lactate, anaerobic, and ventilatory thresholds to a higher pace.	Produce less lactate during sustained hard efforts.
Speed Zone	90-99%	Increase speed and running efficiency	Greater ability to extract oxygen from blood in muscles, energy extracting enzymes increase.
Sprint Zone	100%	Develop kick for the end of races	Improved neuromuscular function, increased coordination.

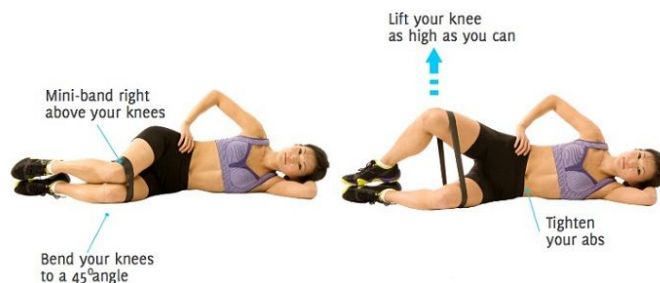
Improve Your Run Training: How to Peak at the Right Time - Sabrina Grotewold,
www.active.com

Injury Prevention

- A lot of the injuries that runners develop during the summer months are simply due minimal strength training and improper stretching. If proper measures are taken during

the summer to create a habit of proper injury prevention, this eliminates many problems later in the season and for the rest of your running career.

- Quick fixes for a few common injuries:
 - Shin Splints (All below exercises done for a distance of about 20 meters)
 - Walk on your toes
 - Walk on your heels
 - Walk on your toes in a line (imagine walking on a tightrope)
 - Walk on your heels in a line (imagine walking on a tightrope)
 - Walk backwards on your toes
 - Stretch: Standing Wall Calf Stretch
<https://www.youtube.com/watch?v=f1HzSAuB-Vw>
 - Knee instability/Hip Strengthening
 - Foam Rolling IT bands: Lay on your side with the foam roll beneath you and roll from hip to knee to decrease tightness (Varoga, 2017).
 - Using a resistance band around ankles, walk laterally back and forth. You should feel this working your glutes specifically. To add mobility and effective motion, have the band around your ankles again, but walk forward and backward rather than sideways. Take larger steps to make it more challenging. Try walking for about 20-30 meters, make it more challenging by using a stronger band or walking more distance.
Visual:<https://www.youtube.com/watch?v=rXLaKUUBjp8> (use the first two exercises)
 - Wall Slides: without shoes on, lie down with your entire body against a wall on your side (facing outward). With your entire leg straight, flex your foot by bringing in to a 90 degree angle with your leg and raise your leg up the wall (slowly) then bring in back down. Raise above 45 degrees, but the goal is not to raise your leg as high as you can. Rather, feel the exercise in your glute. Add ankle weights or move your body out from the wall while still keeping your foot on the wall during raises to make it more challenging.
 - Clamshells: Put the resistance band around your knees and lie on your side. Have your knees bent at a 90 degree angle and bring them up to be 90 degrees with your torso. Raise your top knee until you feel strong resistance from the band, and repeat for about 10-20 reps for 3 sets on both sides.



- Sprained Ankle/Ankle Instability
 - Balance on a foam pad for a one leg squat, if this is too challenging, do it on the floor instead.
 - Throw a bunch of coins or marbles on the ground and pick them up with your toes. This allows you to increase foot strength in small muscles.
 - Post ankle sprain/roll: Key is maintaining motion (unless it is severe, **always see a doctor first** to prevent permanent damage) Ankle circles- roll your ankle in a circular motion clockwise and counterclockwise (20-30 reps a few times per day). Alphabet- write the entire alphabet in the air with your foot (2-3 times each day)
- Helpful things to buy:
 - Foam Roller/Hand Roller
 - Tennis Ball or Golf ball (for rolling out calves more effectively or the bottom of your foot)
 - Resistance bands

More Resources:

- Informative articles about endurance training: <https://www.mcmillanrunning.com/learn/>
- Dynamic stretching exercises: <https://www.youtube.com/watch?v=nPHfEnZD1Wk>
- Join our club Strava page: <https://www.strava.com/clubs/pittclubxc>

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- Cole, A., Horn, M., & Mahon, A. (2004). Aerobic Exercise Adaptations Of Summer-training In Well-trained Male And Female Adolescent Distance Runners. *Medicine & Science in Sports & Exercise*, 36(5).
- Jones, A. M., & Carter, H. (2000). The effect of endurance training on parameters of aerobic fitness. *Sports Medicine*, 29(6), 373-386
- Kurz, M., Berg, K., Latin, R., & Degraw, W. (2000). The Relationship of Training Methods in NCAA Division I Cross-Country Runners and. *Journal of Strength and Conditioning Research*, 14(2), 196-201.

Varoga, Rebecca. "Top 5 Foam Rolling Exercises." *Physical Therapy Consultants, Inc.*, 21 Nov. 2017,
physicaltherapypctc.com/top-5-foam-rolling-exercises/.