



PLANNING A FALL CONDITIONING PROGRAM FOR HIGH SCHOOL ATHLETES: THE LONG SPRINTS & HURDLES

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Introduction

With the recent conclusion of the IAAF World Championships, it can certainly be said that track and field is an exciting sport based upon the thrills seen during this event. The athletes competing at that level are the best of the best, but they all had to start somewhere. At some point in their youth sporting development, they decided that track and field was their focus. While these athletes all had varying reasons for investing all their young adult leisure time into developing their track and field abilities, one thing is for certain, they all learned what it was to train with a purpose. They began year-long training outlines with prescribed phases under the guidance of expert coaches. These athletes got to be the best and made it to a World Championship. If there is one main principle that high school athletes can learn from those who attained the highest level, it is that planned year-long training is essential.

For most high school track and field athletes invested in the sport, their motivation runs on a “snow ball effect”. They go out for the team, they experience early success, they train a bit more, they have more success, they start training even more, enjoy more success, and so on. While more training is not always better, a carefully structured year-long plan with multiple cycles certainly is the best approach. It is interesting to think of how young talent could be brought along if more high school programs ran their track and field training on a year-round basis. This article aims to be a springboard for such thinking.

For high school sprinters and hurdlers, there is perhaps no more crucial period of athletic development available than that during the fall season. Coming into school in September, these speed and power athletes have a full 4 month block of training time available for preparation for the indoor season, or for most programs, a full 7 month block of time before outdoor track. Too often the Fall season is neglected for the young sprinters and hurdlers, and this critical time available for technical and conditioning development is lost, resulting in a poor improvement rate in the athletes over the course of their high school years. While the middle distance athletes have cross country to train for, the high school sprint/hurdlers must also be doing deliberate preparation in the fall season.

As the title states, the focus of this training outline is on fall conditioning for high school long sprints and hurdles. While technical intricacies can be worked into this outline for all the speed and power event groups, the general overriding principle of the fall plan lies in the development of physical characteristics.

Objectives

The primary objective of this plan is to provide high school coaches a general training outline to use with their long sprinters and hurdlers during the fall season. The plan aims to offer

enough structure to give guidance where it is needed, yet also offer enough flexibility so that coaches and their athletes may personalize the training to suit their individual needs. By providing high school athletes with a fall plan, an obvious goal is to improve the performances of the athletes for the following spring. In addition, increased success results in greater participation levels, and more participation spurs further motivation for training; again the “snow ball effect”. These objectives also support healthy, active living as a part of quality, daily physical education.

Overview

The fall conditioning plan for the long sprinters/hurdles begins late September and runs until late December, just in time for the start of the indoor season and winter training plan. There are 7 14-day cycles that repeat over the 14 weeks. Running sessions are 4 times per week including workouts such as hills, fartleks, long intervals, tempo workouts, and light speed days. It should be noted that for any sprinter, high school or otherwise, they must not ever get too far away from speed training at any point during the training year. For this reason, 2 out of the 14 days in the microcycle are devoted to speed work. The speed work is performed in spikes on the track.

The hill sessions and fartleks are performed off-track; on varied terrain grass courses (e.g. golf course). The long interval and tempo sessions can be performed on-track, but special attention should be made for the athlete to run on soft surfaces as much as possible during the fall phase. All of this training is performed in running flats. Hurdle technical work can be included 3 times over the 14 days.

Also included in the microcycles are 6 weight sessions per 14 days. While this can be a contentious issue for high school athletes, a general recommendation for this specific plan is that weights can be done with athletes aged 16+, giving special consideration for individual differences. Medicine ball work and circuit training are both excellent alternatives to weight training with young athletes.

With high school long sprinters/hurdles, it must also be considered that most of them will be playing other sports during the fall season. This participation can be excellent for development of overall athleticism. With the athletes maintaining a high level of physical activity on a daily basis, there is no harm for the coach to accommodate the playing of other sports. For those athletes that are in other sports, the more critical part of their fall track and field training that they should not miss are the weight training sessions, speed work, and hurdle technical days.

The Fall Conditioning 14-day Microcycle: High School Long Sprints/Hurdles

(E.g. September 22 to December 28, 2003)

The 14-day cycle is repeated 7 times over the course of 14 weeks. For each genre of workout (e.g. hills, fartlek, long intervals etc.) there will be 7 workouts available to choose from. Therefore over the fall season, most of the quality running workouts will be performed

twice. Through the conditioning phase, progress should definitely be seen when revisiting workouts later in the season.

Fig. 1 The 14-day Microcycle for the Fall Season (Long Sprints/Hurdles)

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Hills	Weights #1	Speed Hurdle Technical	Weights #2	Fartlek	Long Intervals Weights #3	Off/ Recovery
Hills Hurdle Technical	Weights #1	Tempo	Weights #2	Speed Hurdle Technical	Fartlek Weights #3	Off/ Recovery

Workout Selections

What follows are sample workouts for each genre of training encountered over the microcycle. The 7 workouts offered in each category allow the athlete and coach flexibility and choice according to feeling on the given day, weather, facilities available etc. Each running workout should include a warm-up consisting of: 10min easy running, 10-15min of active sprinting drills including stretching (dynamic and static), 5-10min of mobility work, and 4-6 x 50m easy, progressive striding. The post-workout cool-down activities can include 5-10min of easy running, 15min static stretching, 5min of individual strengthening (particularly for shins with high school athletes).

A) Hill Workouts

1. 1000m loop of 3 hills varying in length from 60-100m with continuous jog in between, 10-20% grade, hills done at 80% effort +, do 2-4 loops.
2. 10 x 100m hill at steep grade (30%+) with walk/jog down.
3. Hill Circuit: 3 sets of 4 x 100m hill at average grade (20%), after each hill do either 15 pushups, 30 crunches, 10 jump squats, or 10 burpees, continuous sets, 3 min rest between sets.
4. 6 x 150-200m hill at 10-15% grade, walk ½ way down, jog ½ way down, repeat, at 80% effort.
5. Hill Ladder: 2-3 sets of (50m-100m-150m-100m-50m) hills, high intensity with walk/jog down, 20% grade.
6. Hill Circuit: 3 sets of (100m hill-40m hill bound-100m hill-40m hill bound) with walk back recovery and 5min between sets, high intensity, 20% grade, powerful bounding, can add resistance such as weighted vest etc.
7. Hill Breakdown: i) 4x150m hill, jog down, 15% grade, 80% intensity ii) 5x100m hill, jog down, 20% grade, 90% intensity iii) 6x50m hill, walk down, 30% grade+, All Out.

B) Speed Workouts (done in spikes on track)

1. 10 x 60m at 90% (accelerating) with 4min rest.
2. 2 sets of (5 x 100m) at 90% (accelerating) with 3min rest between and 6min rest between sets.
3. 2 sets of (6 x flying 40m) at 90% (15m run-in and run-out) with 4min rest between and 8min rest between sets.
4. 8 x 80m with 5min rest at 90%.
5. i) 4 x 60m with 3min rest at 90% ii) 6 x 30m with 5min rest at 90% iii) 4 x 60m with 4min rest at 90%.
6. 4 sets of (100m at 90%, 4min rest, 30m A run, 3min rest, 60m at 90%, 3min rest, 40m bound) with 5-6min rest between sets.
7. 5-6 sets of (2 x 10m hopscotch drill and sprint out to 60m / walk back, 2 x 40m fast accelerating drill with walk back) with 4min between sets.

C) Fartlek Workouts (off-track, grass and rolling course)

1. 20min running with 1min hard / 1min easy at 70-80%.
2. 20min running with 2min hard / 2min easy at 70-80%.
3. 4-5 sets of (30sec-45sec-60sec-45sec-30sec) all at 80% with 1min walk/jog after each and 3min rest between sets.
4. 5 times of (1min medium, 1min easy, 2min hard) continuous with 2min complete rest between.
5. 20min running of 30sec very hard / 3min easy at 85%, continuous.
6. 2 sets of 10min, 10min consists of (3min steady, 1min easy, 2min steady, 2min easy, 2min hard) with 5min walk/jog between.
7. 20min running with 10 x 30sec hard segments whenever you choose.

D) Long Intervals (done in flats on track, attention to soft surfaces)

1. 6 x 300m with 2-3min rest at 70-80%.
2. 6 x 400m with 4min rest at 70%.
3. 3 x (400m-300m-200m) with 3min rest after each and 5min rest between sets at 70%.
4. 5 x 500m with 4min rest at 70%.
5. 2 x (500m-400m-300m) with 3min rest after each and 6min between sets at 70%.
6. 3 x (5 x 200m) with 100m walk/jog across infield recovery and 4min total rest between sets.
7. 300m-400m-600m-400m-300m with 200m walk recovery after each, all at 70%.

E) Tempo Sessions (done in flats on track, attention to soft surfaces, can insert hurdles)

1. (100m-100m-100m) (100m-100m-200m) (100m-200m-100m) (200m-100m-100m) (100m-100m-100m) all at 60% effort with 50m walks between each rep and 400m jogs between sets.

2. 3000-4000m of 100m at 60%, 100m easy jog (can switch 100m quality part as track straights or corners).
3. 5 x (3 x 150m) at 65% with 100m jog between and 400m jog between sets.
4. 3 x (100m-200m-300m-200m-100m) with 100m walk after each and 4min walk/jog between sets at 60%.
5. 6 x (3x200m) with 50m walk after each and 2min jog between sets at 60%.
6. 8 x (200m-150m-100m) with 50m walk after each and 200m walk between sets at 60%.
7. 4 sets of (200m-15 step-ups-150m-15dips-100m / 3min rest / 200m-20 crunches-150m-15pushups-100m) with 5min rest between sets, all at 60%.

Hurdle Technical

The main objective of hurdle technical work for the high school athlete in the fall season is to develop perfect hurdling skill such that it becomes automatic. With such a large time frame until the outdoor season, the athlete must take advantage of this to really learn sound hurdling technique. By rehearsing hurdling technique on a regular basis through the fall plan (3 times per 14 days), the athlete should develop the muscle memory needed for automated hurdling skill for the following spring. While the fall technical work will greatly prepare the long hurdler, full outdoor conditions are truly needed for perfect event simulation.

The fall hurdling sessions should consist primarily of drills and hurdle striding. Numerous drills exist to isolate practice of both lead and trail legs, including a combination of both. It should also be a priority to develop hip mobility and strength by doing plenty of trail leg work, including using such resistance modes as elastic tubing for extra challenge. Particularly in the “Tempo” and “Long Intervals” training days, hurdles at lower-than race height can be included at random spacing. This work will develop the rhythm needed for approaching the hurdles with a smooth stride pattern. These hurdling sessions are primarily focused on technical skill during the conditioning phase.

While it is outside the scope of this article to delve deeply into the description of countless hurdling drills for long sprinters, the best resource available for accessing more information on this topic would be *The Science of Hurdling and Speed* (4th Ed.) by 2000 Canadian Olympic Team Head Coach Brent McFarlane.

Weight Training

It must be emphasized that weight training for the high school long sprinter/hurdler is based on individual needs. While the majority of high school athletes will benefit from the gains provided from weight training, some will be more suited to body-weight and circuit exercises, including medicine ball work. For those athletes committed to a full weights plan, their training may also be supplemented with circuit and medicine ball exercises following their running day workouts. One thing is for certain, improving strength improves performance in the long sprint-hurdler, so time must be spent here. For high school athletes, strength development is perhaps the single most influential area where one can see the biggest performance gains when competing (provided the strength work done is sport-specific).

The strength plan included in this fall conditioning phase consists of 6 sessions every 14 days. An emphasis is placed on the Olympic lifts because of their multi-jointed action and specificity to sport in developing power. Olympic lifts can certainly be started with high school athletes with light resistance, and are an excellent means to improve coordination in the developing youth. The Olympic lifts make up the core exercises in the plan, while other exercises form the supplemental portion of the plan. A well-balanced development of strength is favoured in the high school long sprinter/hurdler.

As mentioned before, the fall conditioning plan consists of 7 14-day cycles. What follows is a table outlining the number of sets and reps done per exercise for each weights day in each of the 7 microcycles (14 days, starting on a Monday). Some exceptions might apply according to individual differences, and a variety of adaptations are possible.

Fig. 2 Fall Strength Plan Sets-Reps Outline (E.g. September 22 to December 28, 2003)

Cycle	#1	#2	#3	#4	#5	#6	#7
Number of Sets-Reps per exercise	3 x 8	3 x 10	3 x 8	3 x 6	3 x 10	3 x 8	3 x 6

It should be noted here that progress should be shown over the course of the fall conditioning phase. For a given exercise, when performing 3 sets of 6 versus 3 sets of 10, it is natural that the weight lifted will be heavier for the lower volume session. A good rule of thumb is to lift a weight such that the last 2 repetitions in a set are challenging. Progress should be shown when returning to a cycle with the same number of sets and reps. For example, greater strength should be shown comparing the weight lifted in cycle #6 versus cycle #3. The athlete should make sure to log his/her performance after every workout to show this progress and serve as positive motivation.

What follows is the outline of exercises to be performed by the high school long sprinter/hurdler for each of the 3 weights days per week. The sequences of exercises should be followed as written; the Olympic lifts should be performed early in the workout when the athlete is fresh so to maintain perfect technique. Athletes may 'super-set' their workouts where they pair upper and lower body exercises and alternate their sets between the two. Regardless of the exercise, perfect technique is required, and every athlete should always train with a partner/spotter. Free weights are emphasized, including dumbbells for all presses to develop bilateral strength. For the abdominal exercises, the number of reps suggested should be performed in 2-3 sets. Each set of abdominal exercises should be of a different type. A good 10-15min spent warming up (easy running, stretching, sprint drills and mobility work, striding) and 10-15min cooling down (easy running/ bike spinning, stretching) is required for each weights session.

Fig. 3 Outline of strength exercises to be performed for each of the weights training days.

Training Day	#1 (Tuesday's)	#2 (Thursday's)	#3 (Saturday's)
Sequence of exercises to be followed	-Hanging Snatch with Split Lunge -Chin-ups -Dumbbell Bench Press -Dips -60-150 Abdominals -Straight-Legged Dead Lift	-Full Cleans from Floor -Seated Running Arms -Dumbbell Incline Bench Press -Full Front Squats -60-150 Abdominals -10-30 Back Extensions	-Hanging Power Clean -Lat Pulldowns -Dumbbell Military Press -Bent-Leg Dead Lift -60-150 Abdominals -10-30 Back Extensions

Conclusion

By putting in a solid 14 weeks of conditioning during the Fall season, a high school long sprinter/hurdler will most definitely be well prepared for the challenges of the ensuing indoor and outdoor competitive phases. Not only will their performance show the dividends, but the athletes will have also made big steps towards preventing injuries, and will directly enjoy the sport more as a result. Spending time conditioning during the fall will allow for the “snow-ball effect” of sport enjoyment to occur (great preparation, greater success, more preparation, further success etc.). For a coach to instill these habits in their high school athletes, they are laying the foundation for a lifetime of physical activity and health.

This training plan is not aimed at being the only type of structured fall plan available. Training plans are ‘living’ documents that must adjust to the changing needs of the individual athlete. It is hoped that this plan can offer guidance to high school and junior programs where needed.

If there is one old adage that rings true, “Prior Preparation Prevents Poor Performance”.

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