



Technical Training for the Steeplechase: Pre-Competitive Preparation during the Winter Season by Dave Korell

INTRODUCTION

The steeplechase (s/c) is a specialty track and field event that requires a unique blend of multiple talents. The steepler will possess the finishing speed of a miler, the stamina of a cross country runner and the strength and flexibility of the 400m hurdler. Because of the need of such diverse abilities, the athlete must make special preparations in addition to typical middle distance periodization. The key words for the steeplechaser to focus on in supplemental training is **STRENGTH, SKILL and FLEXIBILITY**.

In the Ontario high school system the s/c is 2000m in length. It is an open event for boys where grade 9 athletes may compete against grade 12 athletes. Perhaps soon, an open 2000m s/c may be introduced for girls in OFSAA accredited events. Each lap is extended in length for the water jump at the majority of Canadian track and field facilities. Internationally though, particularly in Europe and the United States, generally all water jumps are located to the immediate inside on the second corner of a 400m track. Every lap contains four dry barriers of 91.4cm in height for boys, and 76.2cm in height for the new girls event. There is one water jump per lap.



David Milne (BC) leads Steve Osadiuk (BC) in the 1999 Canadian Junior Championships 3000m s/c (Kitchener, ON). Photo courtesy of tfnorth.com.

In Canadian age-group competition, generally the distance run is the 1500m s/c. This varies between provinces. At the National level, both junior and senior, men and women run the 3000m s/c. The steeplechase is a relatively untapped area of success for Canadians internationally. The most successful steepler at this level has been Graeme Fell (Victoria, BC) in the late '80s/early '90s, who is also the current Canadian Record Holder for the 3000m s/c (8:12). Currently Joel Bourgeois of Moncton, NB leads Canada in this event.



Joel Bourgeois (NB) comes off the water jump in the 3000m s/c at the 2002 Commonwealth Games (Manchester, ENG). Photo courtesy of the Canadian Commonwealth Federation.

Now with the introduction of women's 3000m s/c nationally, and soon-to-be internationally (by 2005 World Championships in Athletics, Helsinki, Finland), this is an exciting area where Canadian middle distance coaches can produce successful athletes. The interest has risen in this event over the last 2 to 3 years. Canadian Karen Harvey-Sullivan has even held the world record in this event for a short time. It is important that young female distance athletes learn the necessary skill so Canadian track and field can take advantage of the opportunity to be successful internationally.



Carol Henry (ON), representing the University of North Carolina, attacks the water jump en route to winning the 2002 NCAA 3000m s/c Championship. Henry is one of Canada's great young talents in this event. Photo courtesy of fast-women.com

TECHNICAL TRAINING

The primary objective of this article is to provide some ideas as to the winter pre-competitive technical preparation of the steeplechaser. Four sections will cover various aspects the coach can include into their training program in addition to the running workouts. The four sections included are: *Drills For Hurdling Technique, Circuit Exercises For Strength, Weight Training For The Steeplechase* and *Event-Specific Exercises for the Indoor Gymnasium*.

The general trends consist of strength and flexibility. The focus of the winter season is for the steepler to acquire the basic hurdling technique and develop both upper body and core strength. Stretching after all running workouts is of paramount importance because the steepler should have the full range of flexibility as similar to the 400m hurdler. All of the exercises described can be done indoors, given the severity of the Canadian winter.

It cannot be emphasized enough that a successful steeplechaser must be able to hurdle all dry barriers in a race. It is far faster and more energy-saving to hurdle the barriers. All other things being equal, the athlete hurdling the dry barriers will beat the athlete stepping on them every time. By stepping on dry barriers, forward momentum is unquestionably lost. Of course in the later stages of a race when fatigued, or in a congested pack, it is sometimes necessary to lightly "step" on the barrier. The "step" is rather only a "touch"; just letting the runner know where the barrier is underneath him/her. The water jump alternatively, is where the vast majority of high school steeplers will step on with right foot, keep low and actively push off of with arms in opposition to legs. At the international level, some athletes now also hurdle the water jump. This is only effective for the top-level athletes, for example, running 8:20 or better for the men's 3000m s/c. At that speed, this action can be done safely.

It is very important for high school athletes interested in the steeplechase to begin their hurdle skill work in the winter season. This will allow them to begin practice over barriers as soon as the spring arrives. By April, they will then be ready to work on the mental aspects of confidence and being aggressive in approaching the barriers. On a short note, the running portion of the s/c program can be approached as either a 1500m runner or a 3000m runner. This will depend on the strengths of the individual runner.

With 91.4cm wooden barriers plus the water jump obstacles encountered each lap, one would be underestimating in saying the event carries an element of danger. That being said, an athlete must still be very aggressive in this event. He/she must not hesitate at any barrier, but rather attack each one. Especially in the closing stages of a race, when one is exhausted after a prolonged period of anaerobic running, the danger level increases while trying to hurdle subsequent steeples safely. An athlete is only ready for this event when they show outstanding concentration in latter stages of workouts, and have superior strength development relative to other runners. The steeplechase is a dangerous event, and that is what makes it so exciting for both athletes and spectators. It is with these ideas in which the coach must decide the readiness of an athlete for the s/c. My recommendation is age 15 and up, based on the coach's assessment of the presence of above-mentioned qualities.

The steeplechase is a wonderfully popular event among spectators, but doesn't often get respect from the best middle distance athletes. On that note, hopefully the ideas contained in this article will get incorporated into more Canadian developmental track and field programs, and help promote the event.

(Ed. Note: This list is by no means exhaustive. There are countless variations not described below that the coach may individualize for his/her athlete. This is the "art" of coaching.)

A) DRILLS FOR HURDLING TECHNIQUE

These drills can be done in a gymnasium. A row of 5 to 8 competition or scissor hurdles get placed in sequence approximately 4-7m apart. All drills are to be done with hurdles at 76.2cm for the high school athlete. These drills are important for working on the basic motor pattern of hurdling. They can be done in varied combinations; normally touch different drills at different points during the week. To be done in the gym 1-2 times per week after winter running workouts. The coach or athlete can decide the specific number of repetitions.

1. Lead Leg Drill: Combine A skip with lead leg only over hurdle row
2. Trail Leg Drill: Combine A skip with trail leg only over hurdle row
3. "Down the Middle's": Combine lead and trail leg action together
4. Wall Inclined Trail Leg: One hurdle, athlete draws foot up hurdle while hurdle top on incline. Foot is dragged low to high.
5. Do above drills while holding medicine ball or wearing weighted vest
6. Put hurdles very close together and do "Down the Middle's"
7. As in number 6, but now go backwards
8. Strides over hurdles @ 80% speed, 3 hurdles, 3 strides apart, low height

9. 1 hurdle next to wall, athlete supports themselves with hands on wall and practices trail leg only.
10. Do number 9, but with elastic tubing resistance around toe, coach holds tubing from behind
11. Forward rolls on mat but land in hurdle position
12. Strides over hurdles 4/5/6 running strides apart, at various hurdle heights

This is not an exhaustive list, but rather a beginning of ideas to develop hurdling technique. It should be emphasized that the steepler practice their hurdling technique using both lead legs. To prevent stuttering in a race and to maintain a high running speed, the steepler must feel fully comfortable in hurdling regardless of what leg comes up first. The focus in hurdling drills should remain on training the athlete's nervous system to adapt to various hurdling conditions, heights, positions etc. The athlete prepared for anything will find success.

B) CIRCUIT EXERCISES FOR STRENGTH

Any variation of the exercises below can be combined for a session 1-2 times per week. Gymnastic mats are needed. The focal points of the steeplechaser's circuit is hurdling strength, abdominals, lower back, upper body and dynamic lower body. The use of the medicine ball is also very handy for these goals.

i) Hurdling Strength

1. Wall trail leg with no hurdle. Can use light ankle weight
2. On all fours, trail leg raises to the side
3. A run over an extended distance
4. Hip flexor leg raises against held resistance by elastic tubing
5. Hurdle back-over rolls on ground
6. Switch from one hurdle position to other while seated on ground, feet don't change position, don't use hands

ii) Abdominals

1. Classic sit ups, crunches, bicycles, side sit-ups, pikes, jack-knives
2. Holding bar overhead so suspended, 2-leg raises (knees straight or bent), hurdle position in air (ankle weights), hip flexor raises with twist etc.

iii) Lower Back

1. "Superman's", raise one arm/one leg only, raise upper or lower body only, raise for medicine ball throws (prone), raise upper body from prone and twist
2. All of above while holding a weighted plate, or wearing weighted vest
3. All of above while using the Swiss Ball

iv) Upper Body

1. Pushups: hands shoulder width, fingers point out/in, hands together, hands wide, hands off-set, plyometric pushups, sprint-start hands pushups, pushups with weighted vest
2. Dips on bench, hand position variations
3. Chinups holding bar overhead so suspended, hand position variations
4. Burpees

5. Medicine Ball: two-hand forward pass, two-hand backward pass, soccer toss, side toss, lumberjack toss, lying on back press-ups

v) Dynamic Lower Body

1. Leg Swings: (one leg at a time) side-to-side, front and back, fast running action, loose running action, loose running action combined with hurdle trail leg
2. Squats: feet shoulder width, feet together, feet wide apart (sumo squat), toes in/out, above using weighted vest, above holding weighted bar or plates, jump squats (with or without weight)
3. Lunges: stationary, moving forward or backward, moving sideways, stepping wide or narrow, with or without weight
4. Ankle Hops: using 1 or 2 feet, with or without weight
5. Heel Walk/Toe Walk for extended distance
6. Partner holds ankles, knees on pad, athlete keeps upper body in line and goes forward and back (for hamstrings)
7. Side Leg Raises: inside and outside of thigh, lying or standing, using ankle weights

This is not an exhaustive list of circuit exercises for the s/c athlete. The athlete can take elements from each section to make up a workout. The exercises can be done in combination with running workouts, even interspersed throughout. The focus of the circuit should be to develop overall, total-body, balanced strength and mobility.

C) WEIGHT TRAINING FOR THE STEEPLECHASE

Offered here is a 2-day routine that a steeplechaser could perform during the general and specific conditioning phases. These sessions can be performed at home given the provision of simple dumbbells. The last 2-3 reps of each set should be tough. Perfect technique is very important, with the athlete always using the full range of motion. In four week cycles timed with a competitive peak, a rotation of 3 sets of 12, 3 sets of 10, 3 sets of 8 and 3 sets of 6 repetitions can be recycled during the above-mentioned phases. With a smaller number of repetitions per set, it is natural that more weight will be used so that the last 2-3 reps still stay challenging. During the competitive season, fewer reps with more weight will be used. In the midst of a peak championship, light weight, few and fast reps will be performed, stimulating the nervous system but not heavily fatiguing the muscle.

i) **Sample Day 1 Weights Session** (e.g. done Monday or Tuesday, 30min session after running workout, done in this order)

- Squats
- Dumbbell Bench Press
- Back Extensions
- One-Arm Rows
- Abdominals
- Chin-Ups

ii) **Sample Day 2 Weights Session** (e.g. done Thursday or Friday, 30min session after running workout, done in this order)

Lunges
Incline Dumbbell Press
Back Extensions
Lat Pulldowns
Abdominals
Running Arm Action (while holding plates)

It should be emphasized that variety in lifting, especially among younger athletes, is very important in order to train the nervous system to adapt to different stimuli. The weights sessions must be adapted in the weekly schedule with the circuit sessions, so as to not over-train the athlete. The repetitions in each set at 12, 10, 8 or 6 are still quite high, so weight used is kept relatively low. In comparison, a speed and power athlete would use repetition sequences such as 5, 4, 3 or 2 reps. Total body strength is incredibly important for the steeplechaser to maintain form and be strong in hurdling all dry barriers. This is also especially apparent in the strength of a finishing kick after running 2600m in a 3000m event.

D) EVENT-SPECIFIC EXERCISES FOR THE INDOOR GYMNASIUM

The focus of these drills is to be as steeple-specific as possible, but adapted for indoors during the winter. These drills are best done before a hard workout, as the athlete is still fresh and the drills can be done safely. Olympic gymnastics equipment is needed, normally found in most high school gymnasiums. These drills could be done once a week early in the winter season, and more often as the spring approaches.

i) Gym Diagonals/Dry Barrier Practice

Run 50m strides on diagonal of gymnasium. Two hurdles are set side-by-side in the direct centre of the gym (at proper s/c race height). Run multiple repetitions with hurdles learning to adjust footwork 10m before barrier. Practice in different scenarios with respect to other runners: leading another runner (full steeple visibility), approaching barrier directly behind another runner (no steeple visibility), approaching steeple side-by-side another runner with contact etc. This exercise is integral to the steepler's winter training to develop the motor skill response in approaching and hurdling barriers in a complete, smooth rhythm. The steepler must get used to hurdling barriers while in physical contact with other runners.

ii) Box-horse To Mat/Water Jump Gym Simulation

Set up a gymnastic box-horse at steeple height (start lower), or use a balance beam in a similar set-up. Use gymnastic mats set out for the landing area after the barrier. The athlete can simulate clearing the water jump by stepping onto the box-horse and actively pushing off to land on the mats and run through. The athlete should focus on staying low over the crest of the barrier (ball-like body position) and use a foot placement that cleanly rocks from mid-foot to a push off the toe. It is important that the young athlete learns early to "run-off" of the water jump, so this can be practiced by running hard off of the mat landing. This drill can also be practiced with different scenarios with respect to other runners as described with the indoor dry barrier diagonals.

As with the true water jump outdoors, there is an obvious risk involved with regards to injury. Landing on one foot on a gymnastic mat after a box-horse could cause ankle concerns. If the athlete is well warmed up, and proceeds initially with mild caution, injury should not occur. The steepler must get used to landing somewhat out of balance as this is what occurs in the true water jump. Ideally, landing in a sandpit with this drill is best. Unfortunately, the majority of high school programs do not have access to indoor track and field facilities. Ensure that there are mats to the side of the box-horse.

iii) **Further Notes on Indoor Event-Specific Steeplechase Exercises**

It is recommended that the drills in i) and ii) be done when the athlete is fresh, that is, before running a hard workout. Alternatively, the coach may occasionally have the athletes practice the above drills after the running workout. While this introduces more safety concerns, this does perfectly simulate how the athlete will have to keep aggressively clearing barriers, even while fatigued.

These event-specific drills are very important. They give the steepler a chance to coordinate psychomotor skills so as to combine **STRENGTH**, **SKILL** and **FLEXIBILITY**. From breaking down hurdling technique, developing total body conditioning and mobility using circuits and improving specific strength using weights, the athlete can use this foundation for working on simulated barrier clearance indoors. It is also very important for the steepler to get used to hurdling and attacking the water jump while in the middle of a pack of runners. This should be simulated in practice.

E) CONCLUSION

The steeplechase is another track and field event that is very exciting. A blend of speed, strength, endurance and flexibility make-up the talents required by the steeple specialist. Although the event does not always get the respect it deserves, the steeplechase can be considered as a focal event for the older high school athlete. By incorporating some of the above training methods, it is hoped that young steeplechasers will enter their spring seasons being fully prepared for success. Winter technical preparation for the steeplechase will result in athletes meeting their competitive goals and enjoying the event and the sport.

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