WA In Line Hockey S&C program proposal

Hi John

This is a master / proposal doc – my idea here is that I’ll run this past you for ‘sanity checking,’ before breaking it up / editing it down into ‘bite sized’ chunks for the trainees. Part of the rationale for this is that we are likely to have trainees vary across a couple of important parameters – ‘has gym access’ vs ‘no gym access’, ‘well trained/fit’ vs ‘untrained/unfit’, ‘heavy playing schedule’ vs ‘light playing schedule’, etc, etc. So, an untrained guy with no gym access and a moderate playing load will get a different set of recommendations to a trained Thus the challenge is to come up with a flexible framework to accommodate all the various combinations of these parameters.

Despite this reality that the prospect pool is a diverse group, the overall structure is pretty much the same a cross the board, so I’ll start with that. Here, we are answering the question ‘I’ve got 9 months to train in – how do I structure that best?’

# Step 1: overall structure.

Table 1 shows the overall structure of the proposed program. Note the following: the ‘date’ is the date of the Monday of the given week – we start training weeks on Monday as a convenience, as it aligns with the start of the work week for most people. This is a 5-phase training program; however, Phase IV and V contain very little structured training (Phase IV is the actual competition we are training for, and Phase V is a recovery block). Dates for other events that might clash with training (here, ACC in late MARCH and the Nationals competition itself) are TBC and may result in block and phase adjustment if they change. I will supply an excel version of this table such that we can update it as dates are confirmed.

## Phase 0

Phase 0 is a 2-week preparation block. It exists primarily so that training management can occur – the sorting of trainees into categories and assignment of actual training tasks. In this block, trainees are providing us with data that will help us plan for them. We want to know the following things:

Height (cm) – measure, if possible, no shoes.

Mass (kg) – use scales and weigh while wearing minimal clothing – naked is ideal but obviously only viable if measuring in private location – if public, jocks / athletic shorts. No shoes, empty pockets (we don’t want the weight of the trainee plus wallet, phone, watch and keys …).

Age as at 1 JAN 2024.

Access to commercial / home gym – Y/N

Playing schedule - number of games per week in a typical week.

Current training pattern, if any - ideally this would look like: x number of strength training sessions (exercise a, b, c, d, etc), y number of aerobic / ‘cardio’ sessions per week (duration, modality [i.e., run, swim, bike, row], distance).

Access to monitoring equipment: does the trainee own a Fitbit / Polar heart rate monitor / Garmin smartwatch or similar?

In this 2-week block, it would be handy if the trainee could find a running track (400m oval) or a relatively flat, smooth surfaced path, and do a 2.4km running time trial. That is, warm up, then run 2.4km as fast as **safely** possible. We need to know the time it took to run this distance. Safely is the key parameter here – there is no point popping a hamstring on day 1 and missing 2 months of training just to get this data point. Anyone who isn’t confident they can run 2.4km fast without doing themselves damage, can substitute a 1.6km walk (again, as fast as possible, but NO running in this test). Ideally, these trainees should monitor HR and report 1.6km walk time and HR in the last 200m of the event. If no ability to monitor HR, just report time.

Table 1. Overall program structure



## Phase I

Before Phase I begins, we would use the data gathered Phase 0 to make some decisions about the trainees – who gets what version of the overall training program, dependent upon game schedule, fitness level, and access to gym / equipment. However, regardless of this categorisation process, almost everyone would flow through the same process, as outlined in Table 1. In Phase I, we are focussed on developing 2 foundational fitness parameters – aerobic base and whole-body strength. Aerobic base work takes the form of 2 long aerobic efforts – we will work up to an hour for each effort, using whatever training modality (run, cycle, row, swim etc) that the trainee prefers and can withstand. These efforts are constrained by heartrate – so, for example, we say something like ‘run /walk / row/ bike/whatever, on a relatively flat course, for 1 hour, with your heart rate between x and y’ and here, x and y would be low – about 60-70% of max HR. As an example, for a nominal 40-year-old trainee, this would convert to a HR range of 108 – 126. The key thing here is to not go so fast as to exceed the top value (126 in this example).

Strength work depends on access to a strength training facility – i.e., a decent gym. If you’ve got it, we will schedule 2 strength training session per week using big, basic barbell exercises – Squat, deadlift, bench, overhead press, and chin-ups. The objective here is to increase the load on the bar over time **without** maximal loading all the time, thus increasing resistance and causing a strength adaptation, but without interfering with performance in the games that the trainee would be playing throughout this phase (or at least, interfering minimally).

If there’s no access to a strength training facility, then we try to achieve the same thing with body weight loaded exercises – squat, pushup, chinup, dip, bridges, etc. As the load is lower, the progression will be towards higher reps and thus the adaptation will be more around strength-endurance, rather than maximal strength. While this might be less than ideal, it’s a bucket load better than nothing, so it’s in the program for those without gym access.

Additionally, everyone gets what’s called ‘movement quality’ work – this is a combination of stretching, low load postural exercise, and coordination work to help everyone keep moving well.

During this phase, players continue to play their regularly scheduled games – these take on the role of conditioning the anaerobic systems and stressing the high end of the aerobic system. Inline and ice are essentially ‘interval-type’ training, so we don’t need to program any of that – we just use / count games as our training for that set of systems.

One week at the end of this Phase is given over to complete recovery – trainees are free to train or not without constraint: this is a mental and physical reset at approximately the half-waypoint of the training program.

## Phase II

The purpose of Phase II is to introduce new workouts that are of higher intensity to the overall schedule. These efforts will predominate in Phase III. However, rather than just slamming into these with no lead-in, Phase II allows us to introduce them gradually whilst maintain some focus on progressing strength and aerobic fitness using Phase I methods. Long aerobic work drops to once per week with one session replaced with interval training efforts. These take the form of moderate length intervals with target HR up at the 75-85% range, with an equivalent break time (so, x min on would have x min ‘off’, allowing the HR to drop back towards the 50-60% level). These are done for the length of the game we are training for (so, 40 min overall) and will come in a couple of varieties.

On the Strength side of the equation, we carry on with the same general format (2x/week), but we start to introduce exercises that are more specific to hockey – particularly, the stride in skating. Thus, there is a move towards single leg efforts (split squats / lunges) and rotational work. This is similar for those without access to a gym. Everyone keeps doing movement quality work.

## Phase III

The purpose of Phase III is to use the higher intensity workouts introduced in Phase II to expand on the aerobic and strength adaptation built so far, in a manner that is similar to the challenges found ‘in game’. As a result, aerobic and max strength / max strength endurance is put into maintenance mode (1x sessions per week each), and the time freed up is used for short duration interval work – HR is no longer a target, and maximal output for 1-1.5 minutes, with 1-3 minute breaks, is used to reflect ‘in-game’ demands. Strength work moves towards the production of power – the application of high amounts of strength for very short periods – we do hopping, bounding, and jumping exercises, and sprints, in very short bursts with long recovery, to ensure we are fresh throughout the exercise bout. Everyone keeps doing movement quality work.

At the end of Phase III, a week of greatly reduced training is conducted, to allow trainees to recover from accumulated fatigue prior to Phase IV.

## Phase IV

Phase IV is the performance component of the training program. Given the typical demands of a Nationals tournament (1, sometimes 2 games per day, odd hours, unfamiliar surrounds, and limited ability to control sleep and food intake), much of the focus here is on recovery - things we can do acutely to ensure that the fatigue load from one game does not accompany us into the next game. Very little, if any, formal training occurs. Everyone keeps doing movement quality work, if they want to (I’d suggest this is pretty much all that you’d do whilst ‘in-competition’).

## Phase V

Phase V is ‘programmed recovery’ – no formal training occurs, and players only play any scheduled games on their local game calendar. Whilst shown as a 2-week block in table 1, this can profitably be extended to a month if the trainee is deeply fatigued. Thereafter, the training cycle could begin anew, or trainees could be released to their own patterns of behaviour until the prep for Nationals 2025 begins. Everyone keeps doing movement quality work, if they want to .

# Step 2 – who does what?

This section discusses how we program particular exercise to specific trainees. Before we go any further, everything that follows is predicated on the idea that trainees are a) healthy, that is, free of disease including cardio-vascular disease, and b) free from injury / have no known injury risks. If these statements are NOT true, then what follows should be modified to adjust appropriately. John, you’re going to have to be my eyes and ears on this issue, as I have no mechanism to account for this at distance. Ask each trainee to affirm they are OK with the above or to provide detail as appropriate.

Ok, now that we’re past that, here’s how we determine programming. First, we need to categorise our pool of trainees into 2 bins: guys that are already really fit, and everyone else.

Guys that are already really, really fit DON’T DO THIS PROGRAM. Here’s the logic: either by their background, or their current training, or their current game schedule, or for some other reason, or all reasons all at once, what these guys are currently doing is working very well. The most likely outcome of dramatic change in programming (throwing their current work overboard and doing this program) is change in fitness, and the likely direction of that change is negative. We don’t mess with what is working already. I’m happy to discuss, with these guys, individual, minor tweaks to their programming that might help. It might be that hey add some movement quality work, but that’s it. Maybe we tweak their aerobic work towards the foundational for a month or two, or change the exercise election in their strength work, but really, if it’s not broken, why change it?

For everyone else, we need to specify three things. First, the trainee’s current and projected typical games per week schedule. For the most part, this won’t change what they do, but it will change when / how they do it. Game days count as training days, so a guy who plays 1 day per week has 6 other days to fit training into. A guy that plays 3 days per week has 4 days to do the same thing. It changes the scheduling, but not really the content, because everyone at this point can benefit from foundational work. So, a trainee will be a 1 day, 2 day, or 3 day per week player – anyone playing more than this per week will need some individual scheduling work.

Second, everyone needs to pick one or more aerobic modalities. That’s just a fancy way of saying ‘how do you want to do your aerobic work’? It’s the trainee’s choice here, except to say that I’m not real keen on guys who are not currently runners suddenly starting to run (injury risk is the thing here). Anyone who already has a dominant modality should stick with that. It’s absolutely OK to have more than one – because none of these walks/runs/rows/cycles/swims are programmed for distance – it’s all done for time, so the speed / efficiency of the modality doesn’t get you finished any quicker.

Third, we need to categorise guys into two ‘access’ categories: has access to a gym and doesn’t have access. Guys with access to a gym get to do strength work. Guys without do strength-endurance work.

Thus, we might have a 2 day per week player, who’s going to run, and do strength. Or a 1 day per week player, who is going to cycle, and do strength endurance. Or a 3 day per week player who is going to row and swim, and do strength. Or any of a multitude of other combinations.

# Step 3 – programming a week

OK, so now we need to set up what a training week looks like. For Phase I (and for most Phases), this is a 4-sessions-a week program. 2 Aerobic, and 2 strength (or strength-endurance, for the guys with no gym access). However, we need to be conscious of the variety in games played per week and also flexible to peoples ‘other commitments’.

The easiest guys to schedule have 1 game per week. In this case, we spread the 4 training sessions out like this:



Now, those training sessions are not set in stone – if you needed to move them around, or preferred to do aerobic on Friday night and on the weekend (due to work commitments, as they are the more time-consuming sessions), that’s fine. The key thing with this structure is it gives a rest day before and after the game, to minimise fatigue effects on that performance task, and the alternating STR / AEROBIC sessions allow for some recovery before the same systems are re-stressed.

Guys with 2 game a week will have to look something like this:



Here, one session is a double – I’d do the strength work before the aerobic if they are back-to-back, but better would be to do one in the AM and one in the PM if possible. If not, back-to-back. Again, the days can move around. And if needed, the days don’t have to track from one week to the next – getting the work done is more important than having an OCD calendar.

Guys with 3 games get something like this:



Double up on both sessions – again, AM / PM split would be good if viable. If not, back-to-back them. As above, move the days to suit individual calendars and don’t be afraid to move the days between weeks – it’s better (way better) than missing a session.

JOHN – let me know if you think this is viable – I’ll get on to setting up the individual sessions.