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1ST EDITION



**INTELLIGENT
CROSS TRAINING
FOR
ROLLER DERBY**
{an introduction}

HOW TO IMPROVE ON-SKATES BY
MAXIMIZING YOUR TIME OFF-SKATES

OCTOPUS PRIME

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DISCLAIMER

The information in this book is offered for educational purposes only and contains opinions held by the author. There is an inherent risk when anybody partakes in an exercise program, especially a full contact sport such as roller derby. Anybody who reads the information contained in Cross Training for Roller Derby {an introduction} or associated documentation should check with a physician before initiating any activities and should not diagnose based off of any information contained within this book.

The author assumes no liability for injury. Training and exercise may be dangerous if performed incorrectly. This is purely an educational book meant to help guide roller derby skaters in creating an exercise program that complements their sports goals and schedule.

The pronoun “she” is used throughout for ease of writing. This book is accessible to anyone anywhere on the gender spectrum.



Acknowledgements

I wish that this book had sprung fully formed from my head like Athena and I didn't have to actually sit down, type it out, and edit it (poorly). Therefore, everyone that had to deal with me in the throes of writing the book deserves some sort of acknowledgement. ***I'm sorry for what I said when I was writing.***

My husband tirelessly read the manuscript and edited it despite the fact that he doesn't give two shits about roller derby. And he also took on primary parenting duties while I was yelling at my Mac for not have a right mouse button. So Corey, if you're reading this, the laundry needs to be folded. And Percy, if you're reading this, I wanted to say "hi". It's me. Your absentee mother.

To my guinea pigs and beta testers, Locks, Scuttle, and Trixie: You let me push you around and tell you what to do. You trusted me with your cross training. You let me use your complaints as fodder for this book. Then you, too, tirelessly read it and offered feedback. The three of you embraced intelligent cross training before I even knew what I was calling it and helped me refine it. Thank you.

This book wouldn't exist without the years I spent in roller derby and all the hats (shirts? skates?) I wore during that time. I'm glad I saw that bout poster hanging up in the ferry terminal. I'm glad that I wandered into the rink and decided to try it. I'm glad that I'm still a part of it. I can honestly say that without my experiences in roller derby, my life would be vastly different. And this book wouldn't exist. Did I say that already?

Starting roller derby is hard. Sticking with roller derby is hard. So this book is dedicated to everyone that sticks it out. Because roller derby is incredible and empowering and life changing. It's a sport that we literally pour our blood, sweat, and tears into. Everyone that plays roller derby deserves to be acknowledged. You are some badassess.



Introduction

Writing a book to cover cross training in all the possible scenarios for all the possible skaters with all the possible goals, limitations, and abilities is impossible. ***This is not that book.***

The purpose of this book is to offer some introductory guidelines for how to create a cross training program for yourself given your specific:

- Goals
- Equipment Available
- Ability Level (both on-skates and off)
- Time Limitations
- Physical Limitations

Even this is a pretty wide spectrum. ***The biggest key to your cross training is going to be to embrace experimentation.*** She who experiments the most, wins!

I've been skating since 2010 (so hipster!) and I consistently failed at cross training until I had to return to skating after giving birth to my son. Wait. That's not entirely true. I failed pretty hard at cross training right after that too.

Sometimes my failures involved too little cross training and sometimes they involved too much. Sometimes my failures were due to poor choices and sometimes my failures were due to lack of desire...

I tried pre-written programs. Those worked okay. I'd feel like I was getting moderately stronger (or faster or more agile), but it just wasn't enough. I tried the programs that were working for the other skaters on my team. Again, I'd feel like I was seeing some results, but not what I wanted.

What's a girl to do?

I started paying attention. I paid attention to the workouts that made me feel good vs the workouts that didn't. I paid attention to the exercises that made me stronger vs the ones that didn't. I paid attention to what I was struggling with at practice and tried to figure out how to work on it off skates. Then I experimented. I added more weight or more reps. I tried to do the same reps and sets faster than I had before. I switched out exercises and workouts where I didn't see results and substituted ones where I did. And I started to see better results and more improvement than I ever had.

In short, I started to use Intelligent Cross Training.

I decided to go back to school to get my degree in Exercise Science with a certification in



Personal Training because I wanted to know more about what I was figuring out, but not everyone has that kind of time. The good news is that you don't have to be a wizard when it comes to anatomy and physiology or exercise programming to create a program that will work for you. You just need to look at the data YOUR experiment is giving about YOU.

Not getting the results you want? Adjust. And keep adjusting. Until you hit on something that works. It can be difficult and intimidating if you've never tried to do it before, but this book will offer some tips and tricks for finding what cross training plan works for you based on...well...YOU.

Let's get kraken! (A little cephalopod humor for you.)

Prime #151



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What is Intelligent Cross Training?

Intelligent Cross Training, v: practicing the art of experimentation. Awareness of what you're doing and what works for you, changing what doesn't.

The idea for #intelligentcrosstraining came to me one night in a dream.

Yeah, right!! I wish it had been that simple.

I made a lot of mistakes in my cross training when I first started playing roller derby -- and, quite honestly, for years afterward. Every mistake you can think of, I made it. All of the mistakes listed later on in this book? Yep, made those too.

I've undertrained and overtrained. I've been frustrated, tired, and hangry. I've let my cross training consume my life and forgotten about it completely. Does that ring any bells?

Now I look back at myself and shake my head. What was I thinking? How could I have been so foolish? Why was I doing this to myself!?

Here's why: we live in a black-and-white, all-or-nothing society. Because being on the extreme ends of any spectrum is WAY hard core. And who doesn't want to be hard core? Hard core is sexy.

- *"I cross train 6 times a week and practice 4 times a week! RAWR!"*
- *"I eat entire 1lb bags of M&M's in a sitting and then eat nothing for 2 days! EXTREME!!"*
- *"I drive 80mph EVERYWHERE!!" *crash**

From the outside, roller derby looks like an ALL-OR-NOTHING (!!!) (*screamed while carrying a lance and charging directly at your opponent*) sport. But it's not. Not really.

Roller derby takes patience and strategy, hard work and determination, perseverance and experimentation. All of these things that you {perhaps unknowingly} do at practice to become a better skater.

You probably couldn't plow stop worth a damn when you first started playing, right? You're better at it now than you were because you experimented with it. You got feedback: maybe from the way your body felt, maybe from a coach, maybe from the fact that your ass just hit the floor. You took that feedback into consideration and made changes based on what you felt, heard, and saw.

The truth is, you do this every time you skate. You do this every time you do anything. Your brain is a feedback processing machine. If you touch a hot stove, it hurts. Your brain becomes



wary of doing it again and you don't. Probably.

So why is it that when it comes to cross training, we throw all that out the window?

Intelligent Cross Training is about intentionally putting that feedback loop into place where it hasn't been before. Paying attention to the feedback that your cross training is giving you and purposefully adapting it to meet your needs better.

I hit upon Intelligent Cross Training by accident after suffering an injury that sidelined me for the rest of the season. At first, the injury looked minor -- like something that a few weeks of rest would cure -- so I took a couple weeks off. But....I had already earned roster eligibility for the next bout. And...my injury was feeling better. So...I decided to play.

I did light workouts leading up to the bout and had **THE BEST BOUT OF MY CAREER** (despite the nagging injury).

I decided to take this idea of moderation and a #purposefulminimum into my cross training. I couldn't believe what I saw. My strength numbers went way up. My speed and stability on the track increased. But most importantly, I was having fun with my cross training.

And that was the birth of Intelligent Cross Training.

The purpose of this book is to get you on the road to Intelligent Cross Training. It's a hard process. It takes practice and work. But the rewards are worth it.

Just as a disclaimer, here are some things that you should be aware of if you're ready to make the move to Intelligent Cross Training:

1. **It will be uncomfortable.** The ability to rest where you pushed yourself hard before is going to be one that you are cultivating. Breathe through it. You'll survive.
2. **People won't understand.** Prepare to hear, "You only cross train 3 {or even 2} times a week? That's crazy." You're embracing the #antiextreme. So embrace it. What they're really saying is that they wish they could do that too.
3. **From the outside, it looks easy.** The mental energy you spend on your intelligent cross training and experimentation is fun, but you are using up energy. Your 3 day a week program that gets you results seems too good to be true, but you're doing the work just the same.
4. **Other skaters won't necessarily get the results you get.** Because Intelligent Cross Training is designed FOR YOU, giving the program you use to someone else might not yield the same results.

Let's get kraken!

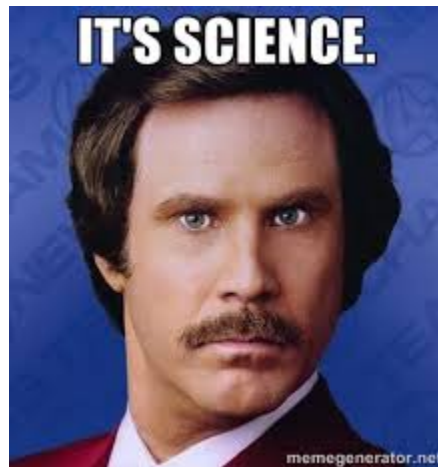


SECTION ONE: The Foundation

The SAID Principle

Working out -- exercising, cross-training, whatever you want to call it -- forces your body to adapt to the demands you put upon it. **Think about it this way:** when you first started skating, practices felt like long, hellish slogs uphill where everything was on fire. Once you'd been skating for a while and/or passed your minimum skills, the same practice that had you puking your guts out at first now feels relatively easy.

The physical *demands* of your roller derby practices produced *specific adaptations* to your body. Just because you can now make it through an entire Fresh Meat practice easily, however, doesn't mean that you suddenly have the endurance to run a marathon. Yes. You probably have BETTER cardio endurance than you did before, but that adaptation is specific to the cardio demands of a roller derby practice. Not the cardio demands of running a marathon.



Whether you know it or not, that's proof that you're living the SAID Principle. SAID stands for **Specific Adaption to Imposed Demand** and it's a foundational tenet of exercise training. This principle is also one of the reasons why effective cross-training for roller derby can seem so hard.

Most of us, when we set foot in a gym or into our office "workout room", have an intention of making a change (*adaptation*) to our body. The exercises or workout that we choose to do that day (*imposed demand*) is designed, at least to some degree, to elicit the change we want to see. Cardio bunnies run on treadmills because they have a specific goal. Bros at the gym grunt and throw the weights around because they have a specific goal.

However, at it's most basic, the SAID Principle is "**practice makes perfect**". Meaning, if you want to get better at skating, you have to skate.



Does that mean you don't have to do **ANY** cross training at all ?!? No. Not really.

But, this **IS** why the idea of carryover is so important. Carryover determines how well the workout you're currently doing, and the adaptations your body is making, will help you reach your fitness goals. (For me, that goal is usually to be a derby badass.) You always want to ask yourself: Does the workout I'm doing have carryover to roller derby?

And here's the thing, that can be hard to determine.

Lance Armstrong, who holds one of the highest VO₂MAX scores ever recorded (which means he has a shockingly low resting heart rate and uses oxygen as efficiently as a robot -- an oxygen dependent one, obviously), decided to run marathons after he retired from cycling. He ran his first marathon in under 3 hours (2:59:36), which is **great for a novice**. Lance Armstrong, who has crazy good cardio endurance and won 7 TOUR DE FRANCE TITLES, ran a marathon in a time typical for a well-trained runner. (For reference, he finished 89th.) How can this be? Well, it's because cycling as an exercise doesn't have a high carryover to running as an exercise.

Training for any skill specific sport requires a tremendous amount of skill specific work coupled with cross training exercises that have the highest carryover rate possible to the sport. Is your hour spent running on the treadmill 3 times a week a good carryover to derby? Is your 45 minute grueling HIIT routine? What about your yoga practice?

HOLD UP. (la da da da da, it's the one and only...) DON'T PANIC YET.

In accordance with the SAID principle, **before we can talk about cross training for roller derby, we need to talk about regular training for roller derby**. The kind that you do with your skates on, in the rink, on the track, at practice. "At practice" is a key element to this. Yes. Session skate is a great place to get some extra wheel time, but it's probably not going to be the place that challenges you enough to make you better. At least not to the degree that you want.

There's prevailing wisdom going around roller derby that goes something like this:

*"If you're practicing twice a week, you are maintaining your skate skills.
If you're practicing 3 or more times a week -- you're improving.
If you're practice 1 or fewer times a week -- you're losing."*

This is an oversimplification, but it's actually pretty helpful for determining how much sport specific work (i.e. practice time) you should be participating in each week dependent upon where you are with your skating abilities. In order to determine your cross training routine, you have to determine your regular training routine first.

This next bit might be a tad unpopular, but hear me out.

If you're a new skater*, you should be attending **AS MANY PRACTICES AS POSSIBLE**.



Period. For real. If your team/league offers practices every day: Go. To. Them. The things that you need to get better at in order to be an effective member of your team (and a decent skater) are things that need to be learned on-skates. THINK: moving in a wall, track awareness, listening/communicating with your team, locking in your form, and automating your skills. You will need to do some off-skates cross training as well, but this needs to be focused mainly on helping your body keep up with the new demands you are putting it through and staying injury-free.

- YOU ARE A NEW SKATER IF YOU CANNOT COMPLETE 85+% OF YOUR MINIMUM SKILLS AUTOMATICALLY. This, in particular, is an unpopular view. That means if you've been skating for 3 years, but still legitimately struggle to coast on one leg, plow stop completely, and/or complete a full and safe transition, **you are a new skater**. Go to practice.

If you're an intermediate skater*, you should be attending as many practices as possible with an eye toward branching out into serious cross training. The things that you need, to continue a trajectory of improvement, are a combination of real-life scenarios (like scrimmages or team drills) and off-skates work that will get you stronger and sturdier.

- INTERMEDIATE SKATERS are masters of their minimum skate skills and have enough track awareness to start anticipating situations rather than simply reacting to them. Intermediate skaters don't necessarily need to be huge communicators -- that comes later -- but they should be able to see, as Bobby Fischer put it, "5 moves ahead". Okay, maybe 2 or 3 moves ahead.

If you're an advanced skater*, you should be attending as many practices as possible where you are working on higher level skills that are required for higher level play. This may sound elitist, but don't kill yourself** going to 2 additional fresh meat practices per week. Don't get me wrong, everyone needs to work on their basics, but you'll find that the bang for your buck out of those 2-4 hours is minimal, at best. Kill yourself** at your high level specific practices and then cross train like a mofo. You need to lock in your higher level skills and build on your strength.

- ADVANCED SKATERS have mastered all of their minimum skate skills, have a high level of track awareness, and are typically running the show out on the track. These skaters also have a high number of advanced skills automated (like hockey stops, apex jumps, etc.) and are - usually - on their league's version of an A-team.
- KILL YOURSELF is metaphorical. Please don't kill yourself.

A lot of the above categories are also dependent upon what type of league/team you skate for and what type of skater you are on that league/team. Not every league can offer advanced skaters room to grow. It's unfortunate, but true. If you are an advanced skater, you may find that your opportunities for on-skates growth are minimal because you are in a small league and are always practicing with new skaters that need to move more slowly. If this is the case for you, you have two options: move somewhere bigger with more high level skating opportunities or get your growth primarily through individual skating sessions and cross training.



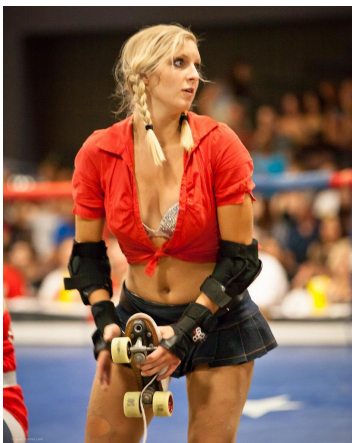
Let's recap:

SKATER TYPE	PRACTICES	CROSS TRAINING
New Skater	All. Of. Them. Seriously.	Prehab/Mobility Some Strength
Intermediate Skater	A lot. Especially those focused on scenarios and teamwork.	Strength Prehab/Mobility
Advanced Skater	Highest Level Practices Others as desired	Strength/Power Agility Prehab/Mobility

In practice that might look like this:

In a league where there are 4 practices per week, a new skater should be attending 4 practices per week as often as possible. An intermediate skater will likely want to attend 3, but this can be determined by what specific practices are held on each practice day. An advanced skater will likely attend 2-3, again determined by the specific practice held on each day. (For example, in a league where 1 day is basics, 1 day is endurance, and 2 days are team practices, intermediate and advanced skaters want to prioritize the 2 team practices. The intermediate skater would choose a 3rd practice based on their need -- or alternate between the other 2. The advanced skater COULD choose a 3rd practice or get in an additional day of cross training. Or any combination thereof.)

Since we're all here to play roller derby (or most of us are, I assume), it's important to determine your cross training schedule around the base number of practices required by your league, but also the base number of practices YOU should be doing to maximize your effectiveness as a skater. Now that you have a base schedule, you can move onto off-skates training and that little thing called "carryover" that we were talking about earlier.



Why Strength is Underrated

Roller derby, throughout all of its iterations, is a game of flash. We love the big hits and fancy footwork. We "ooh" and "ahh" over the apex jumps and the sternum blocks. We thrill to the jukes and toe stop work. That stuff is sexy and sex sells. (Fish nets and booty shorts, anyone?)

Skaters often get caught up in the sexy when it comes to cross training too. We see Scald Eagle doing a grand jete on her toe stops, over skaters, on the line, and we want to do it too. We see



Bonnie Thunders juke out an entire wall of blockers and we want to do it too. We watch Kayla Gaska level two consecutive blockers with a shoulder check and WE WANT TO DO IT TOO!

Be real. How many of you, when you saw Stephanie Mainey practicing her blocking with a heavy bag, ran out to find a place where you could do that too? EVERYONE? I thought so. But just like everything else, all that flash came with a lot of behind the scenes hard work. (Think of it like advertisements and photoshop. There's a lot of "ugly" to hide away if you want sex to sell.) Now that I've ventured down this analogy rabbit hole *just far enough*, let's get to the point.

All those "tricks" you see high level skaters doing are built on a foundation of strength.

I mean, have you ever tried to grand jete? Off skates? It takes a level of core strength and stability that most people aren't walking around with. High level athletes train like crazy outside of the spotlight so they can dazzle you when the pressure is on. That flash isn't magic, it's not even flash, it's their hard work coming home to roost.

(SIDE NOTE: This is a book. So it's not very interactive. However, I know that someone, somewhere is saying, "But I know a skater who is incredible and she/he NEVER strength trains. Or workouts. Or gets off the couch for anything but derby practice." Guess what? I know those skaters too. They grew up on skates or are just plain talented or awfully lucky or have unicorn blood pumping through their veins. You want to know what else I know? They could be better. If they cross trained. And another thing? If you work hard and they don't, you'll be better than them someday. If, you know, you're competitive and that's important to you.)

This is why strength training is underrated. The flashy moves that we see, drool over, and covet for ourselves don't look directly related to strength. But all of those skills: speed, stability, power, agility, come from a base of strength. If you can increase your strength base, you can increase your ability to be faster, more stable, more powerful, and more agile than you were before.

Conor Doherty, a hockey and soccer coach who writes for a website you might want to check out called Breaking Muscle, put this idea into words so flawlessly that I'm not going to try to rephrase it. His analogy comes from [this article](#), if you want to read it in full.

"Let's look at an example of a couple [of] cookie jars with cookies in them to explain this maximum strength phenomenon. Let's say we have two jars of cookies that are the same size. Let's say these cookie jars represent two athletes who have the same amount of maximum strength. Now let's say the cookies represent all of the other physical attributes in an athlete like speed, agility, power, and endurance. The size of the cookie jar determines how many cookies can fit inside.

The two athletes then spend the off-season doing two different training



programs. Athlete #1 spends his off-season getting stronger, working on improving his maximum strength (i.e. growing his cookie jar). While athlete #2 stays in great shape, but doesn't get any stronger. If we now look back at the cookie jar analogy, athlete #1 now has a larger cookie jar with the ability to put more cookies in his cookie jar. Or more clearly stated, athlete #1 now has a higher ceiling for how fast, quick, and agile he can get.

All because he got stronger. Maximum strength is that important for athletes.”

This quote directly relates to the off-season because that's the ideal time to focus solely on building your strength base, but it also hits on the reason why ignoring strength training (or de-prioritizing it) can lead to diminishing returns in other areas.



Plus more cookies!

Strength training is also particularly important when we talk about exercise carryover. Workouts and cross training that build overall strength (and therefore increase the size of your cookie jar) have direct carryover to the strength that you'll be able to access during roller derby. The physical act of being able to squat 200lbs may not have a direct correlation to any physical action that takes place on a derby track, but the strength that those squats build carries over to stronger hits, more explosive movements, and greater stability.

**Great! I'm sold!
When do I start
strength training?
The off-season?
That's so far away...**

There are a few things that hold skaters back from strength training more frequently. The first being that a lot of the interwebs (like the article above) imply that strength training is only for the off-season. The second is usually a combination of not knowing what to do, how often to do it, or how to keep improving. And the third, unfortunately, is due to intimidation.

The first two issues that skaters face when they begin strength training are both related to a lack of knowledge and we'll address that later on when we start talking about building a program that works for you. Strength training can be done at anytime during the season, but certain modifications to the type and volume of training need to be made depending



on whether you're in on-season, off-season, a bouting week, have a tournament coming up, are coming off an injury, etc. And, if you're setting concrete goals and collecting data, figuring out what to do, how often to do it, and how to continue your improvement will start to feel natural.

The last bit is a little more difficult to address. I've trained several skaters who didn't strength train **primarily because they were intimidated** by the gym, by the equipment, and by the other people there. And that sucks. You should absolutely not feel intimidated by going to the gym, using the equipment, or looking all those Judgy McJudgersons in the eye while you knock out a high volume, high weight, high quality squat (or press or inverted row or whatever your heart desires). The good news is that those skaters are now in their gym repping derby and having a blast.

But, in lieu of having me fly to your home gym, kick in the doors like the SWAT team, and get you squatting like it's hot (which I would love to do, by the way), you can typically find another skater on your league that feels comfortable at the gym and can show you around. Most gyms have Personal Trainers or other staff who can take you on a tour and show you how to locate and use all the equipment. You might want to recruit a friend - skating or non - to go on this strength journey with you and then you can muddle through the equipment together. Here's a great article from Girls Gone Strong about [getting to know your gym](#) and proper gym etiquette (even if sometimes it feels like you're the only one following it). If a piece of equipment or something about your gym is really giving you fits, you can always email me at hi@ironoctopusfitness.com, send me a picture of the equipment you're currently wrestling with, and I'll do my best to help you figure it out!



Hopefully, I've sold you on strength as a cross training addition to your practices. (Your schedule is starting to look a bit full, isn't it?) And I bet you're chomping at the bit to throw weights around and get stronger. Whoa, rein it in. Despite what I said in this section, you won't actually get stronger while you're lifting weights because...

REST: It's Where the Magic Happens

I hold strong to the belief that there are 2 types of roller derby skaters:

- Skaters that play derby to workout.
- Skaters that workout to play derby.

It doesn't really matter which one you are and I'm not trying to convert you from one to the other (although I am trying to convert you to something), but I am here to tell you that the big thing that differentiates the two is rest.



Going out on a limb, one group rests an excessive amount and the other group doesn't rest nearly enough.

While strength training can help you build the overall strength you need to be a better (faster/stronger) player, you're not actually building strength in the middle of your kettlebell swing or weighted lunge. You're destroying your muscles during those movements. Literally.

The {very} basics of muscle and strength acquisition require you to damage your muscle fibers to show your body that it is not strong enough. Your cells come in, see the damage, and repair it to withstand the same demand better the next time. If you never give your body time to assess and repair the damage, you end up with weaker muscles than you started with. (This also leads into an idea called Progressive Overload, but not yet!)

Reread that last paragraph.

Can you smell what that paragraph is cooking?

***You get stronger when you rest.
Not when you train.***

Let that sink in for a minute.

A little longer.

Just...a little longer.

Okay.

So let's go back and take a look at our two most common derby skaters again.

Skaters that play roller derby to workout

These skaters don't cross train. They attend practice 2 (or more) times a week and that IS their workout. Skaters like this don't typically have trouble making it through a normal practice. And they can make it through a typical bout -- game, whatever we're calling them now.

Skaters that fall into this category consider themselves to be in pretty good shape. **Because they are.** If you were to compare the overall strength and cardio endurance of this skater to Jane Schamane down the street, the derby skater is probably in better shape. (If Jane goes to the gym, the skater is probably still in better shape, but marginally.)

This skater under adapts and over rests.

What does that mean?? Once this skater reached a point in her career where practices weren't terribly grueling anymore, she also reached a point where she wasn't stressing her system



enough to produce a significant change.

Think about all the things that were mentioned earlier: This skater is putting her body under the SAME imposed demand every time she works out. She'll eventually reach a point where **her body has adapted as much as it can**. That doesn't mean this skater can't get better at footwork on skates or at anticipating the game on the track, but it does mean that she's maxed out her strength base (at least the one she can get simply by skating). She will not get any stronger/faster/more agile without a different imposed demand.

This skater also rests A LOT compared to the demands that her body is under. Because the adaptation she's producing is minimal, it doesn't take her body or muscles long to recover. (Don't get this confused with recovery time between jams. It's not the same thing.) This over rest can be detrimental to the strength that skater has gained through practices, to the skater's overall muscle hygiene, and her overall strength base. Think about when these skaters take a few weeks off -- OUCH!

I'm not here to put a valuation or pass judgement on skaters that do this. Hell, I was that skater for a LOOOOOONG time. Derby absolutely has room for skaters like this. If you bring up cross training to this skater and they aren't interested, don't push it. They'll either come around when they're ready or they won't. They can still skate and be awesome.

However, there are some problems that can arise for skaters that only skate to workout:

- **They STRUGGLE at more strenuous practices.** These skaters can keep up with a moderate pace line for 40 laps, but if you up the ante (to 100 laps or a faster than moderate pace) they fold pretty quickly.
- **They STRUGGLE at “non-typical” bouts.** These skaters can play at max effort for one bout with a full bench that has them going in every 2nd or 3rd jam (to block) or every 3rd or 4th jam (to jam). If the bench is depleted, they have to play in a position other than they are used to, or they are playing multiple bouts in a short period (tournaments or double-headers) they will not be at their best as time wears on. Even bouts against a team that is significantly better than theirs will make this skater work harder than they might be adapted for.
- **They improve much more slowly than skaters that cross train.** Everyone improves at their own rate, so comparing any one skater to any other skater is doomed for failure. However, once these skaters have reached their “adaptation plateau” that I mentioned earlier, their progress on skates will slow down more quickly than someone that continues (or starts) cross training.
- **They *may* be more prone to injury.** Studies suggest that cross training can protect athletes from overuse and imbalance injuries that are common to their sport. But we all, anecdotally, know a skater like this who has never been injured and one that cross trains a lot and is injured frequently.

Which brings us to derby skater number two:



Skaters that workout to play roller derby

These skaters cross train. They attend their 2 (or more) practices per week and then they hit the gym 4, 5, or 6 additional times during the week. These skaters are often leading the peline, the first to line up for drills, and the ones with bruising hits. Usually.

Skaters that fall into this category consider themselves to be in pretty good shape. But they can always be in better shape. Right?? Right?!? You might hear these skaters complain about being tired or sluggish during bouts, which inspires them to cross train more. ***They cross train hard because they want to be better!*** (exclamation points x 1000)

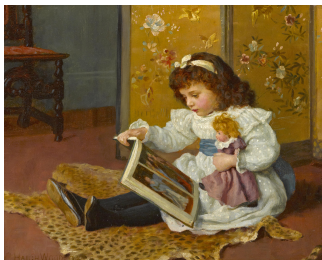
This skater under rests and under adapts.

What does that mean?? Think about it. This skater practices 2+ times a week and cross trains 4+ times a week. Even on the low end of this spectrum, that's 6 days of working out. Every week. For months and months and months.

This skater is working the muscles in her body HARD nearly every day, every week, for a large part of the year. This isn't even counting bouts, tournaments, open scrimmages, trail skates -- or anything else physically active that she wants to do with her time that isn't skate-related. In this sort of imposed demand scenario, her body is going to reach a point where it struggles to assess and repair the damage she's doing to her muscles. (And we want damage to create adaptation, so it's not the damage itself that's the problem.) She will not get any stronger/faster/more agile with this much imposed demand.

Because this skater doesn't take enough rest, all of the demand that she's putting her body under isn't creating the adaptation that she's hoping for. There isn't a chance for her muscles to adapt to the weight she's lifting or the plyometrics she's doing. The worst part about this "under adaptation" is that this skater often views it as a sign that she should be cross training harder.

I'm not here to put a valuation or pass judgement on skaters that do this, either. Believe it or not, I was this skater for awhile too. The thing is that most of these types of skaters don't realize that what they are doing is actually keeping them from progressing as quickly as they'd like.



STORY TIME!! Snuggle up. I started training my first set of skaters at the beginning of their off-season and it required me to sit down and do a face-to-face consultation with each one of them. Mostly this meeting was to review the paperwork and hash out their goals. I sat down with a skater who proceeded to lay out her current training plan for me. This skater attended 3 (sometimes 4) practices per week and cross trained 6 times per week. That's 9-10 separate workouts to shoehorn into 7 days. And she didn't even blink when she told me.

This same skater also complained that during scrimmages and practices, she didn't feel like she



moved her feet very well and she hit a wall during bouts where she felt exhausted; like she couldn't skate anymore. ***So she did more cross training.***

Want to know the most interesting part? She wasn't the only one that told me that.

This is one of the biggest problems with this group of skaters. Not every skater that cross trains is overdoing it. But it's a common problem for skaters that DO cross train to do too much rather than too little. Here are a few other problems that can arise for skaters that workout to play derby:

- **They burnout quickly.** This applies to most aspects of their life. These skaters are exhausted, hungry, frustrated...you name it. They might become short and snappish in their leadership roles or out on the track.
- **They STRUGGLE in back-to-back bouts.** These skaters struggle in non-typical bouts because they're already verging on fatigue during a regular bout. An overworked skater will have a VERY hard time making it through a double-header or a tournament weekend. Although their crash might happen at home, where the team doesn't see it.
- **They don't realize how much they're actually doing.** Like the story above, these skaters don't see how hard they are working, even when you ask them to write it down and talk about it. These skaters often just assume that this is what it takes to get better.
- **They can't slow down.** These skaters are terrified of doing less than what they are currently doing. Because what they are doing isn't working the way that they want -- if they do less, they'll {lose muscle, gain fat, lose skills}.
- **They *may* be more prone to injury.** Over training injuries are real. Not giving your body time to appropriately heal and repair is a recipe for disaster.

I wish I could tell you that there's a magical ratio of cross training to practices to rest, but there's not. It depends entirely on what you're doing in your cross training, how strenuous your practices are, and how restful your rest actually is.

What I can tell you is that this is a touchy subject for a lot of skaters. Skaters that don't cross train typically know that they would be better if they did, but have a hard time ramping things up. Skaters that attend every practice AND cross train 5-6 times a week often don't recognize how much stress they're putting their bodies through and have a hard time slowing down.

The good news is, if you are willing to experiment and pay attention, you can find what works best for you and avoid most of these problems all together.

Goalz before Gainz

Any good experiment starts with a problem.

"I wish my paper didn't get blown across my desk when I'm trying to write on it."

BOOM! Post-it Notes.



“I wish there was a better way to eat 8 things at the same time.”

BOOM! Smoothies.

“I wish I didn’t have to worry about my son peeing on me when I changed his diaper.”

BOOM! [Peepee Teepees](#).

So what problem are you trying to solve?

This is where your goals come in. What is it that you want to accomplish with your cross training? A lower, more stable derby stance? A bodyweight bench press? An apex jump? A pull-up?

(SIDE NOTE: I recommend that skaters make two goals for their training: a skating related goal and a non-skating related goal. Taking your hard-earned strength and applying it to the track can sometimes be more difficult than building the strength itself, so it’s nice to have a non-skating goal to keep you anchored and show you that you are actually improving.)

How do you make your goals?

1. **Start at the start.** This sounds redundant and simplistic and kind of stupid, but it’s really important. Before you set a skating or exercise goal for yourself, you need to be real about where you currently are. Learning to jump the apex is a great skating goal! But if you can’t plow stop or transition fully and safely, making an apex jump goal is putting the cart before the horse. The same goes for exercise goals. Getting a 500lb deadlift so that you can get one of those “Deadlift Club” t-shirts at your gym is not a reasonable goal if your first thought about this sentence was, “What’s a deadlift?”



And, there you go. Tires optional.

2. **Be specific.** What exactly are you shooting for? Getting faster is a good goal, but how much faster do you want to be? Let’s take one of the goals above: transitions. A lot of skaters make very vague (i.e. non-specific) statements about wanting a “better transition”. Okay. What does a better transition mean to you? Will you be able to accomplish a transition at a slow pace 100% of the time? Do you want to work up to



transitioning at a moderate pace without having to slow yourself down with a plow first? Do you know what it is you specifically struggle with? Maybe your goal should be the ability to open and close your feet instead of transitioning completely. Whatever it is, you need to make sure that it's specific enough that you know when you've done it.

3. **Measure it!** This goes hand-in-hand with specificity. If you take actual measurements, it's easier to be specific and it's also easier to determine once you've done what you set out to do. If you're finding that your overall goal isn't very specific (I just want to be stronger. I just want to be more agile. I just want to be faster.), then you might want to consider testing. The 27-in-5 lap test is a good, basic way to determine whether you've gotten faster or not. For agility and strength, I recommend an overall fitness test that can give you a few different numbers related to strength, agility, etc. Roller Derby Athletics has a good one [HERE](#). Once you've taken the test, you can make specific goals related to your core strength, agility, short burst endurance, and leg strength because you have specific data to act as a baseline. These goals are non-skating related, however. The best way to measure a skating goal is often video. If transitions are your goal, film yourself doing one now and film yourself doing them periodically.
4. **Adjust.** If your data tells you that you aren't improving in your goal area, adjust what you're doing. If you reach your goal, adjust and create a new one. This is the most important part of cross training: knowing when to adjust.

Don't go storming into your cross training, full of piss and vinegar, ready to kick ass and take names. Go in with a plan; a plan that is based on your goals. Then you can use your plan to kick ass, take names, and piss vinegar(?).

The Mistakes You're Already Making

Mistake is a harsh word. I know you're not sitting on a bench lacing up your skates and thinking, "How can I possibly make myself less effective when I play roller derby?" The problem is, though, that often what we do with the best of intentions holds us back from actually becoming stronger and meeting our goals.

The following are by no means hard and fast rules, but they're something for you to think about as you start planning out your cross training for the new season.

You subscribe to the "No Pain, No Gain" mentality.

A workout isn't a good one unless you can't lift your arms high enough to wash your hair in the shower the next morning. You can't stop your HIIT routine until you've nearly (or actually) vomited. An exercise isn't over until you're shaking with exertion. Sound familiar?

The basics of muscle acquisition require a certain degree of stress to your muscles in order for



them to grow -- whether you want to grow size, strength, or power. But too much stress requires a lot of energy for your body to repair and takes a longer time to fix. This can open you up to fatigue, immune weakness, and overuse injuries. It's okay to be sore, it's not okay to be paralyzed.

This is also known as the "If a little is good, a lot must be better" mentality.

You don't count your practices as exercise.



This is most frequently the mistake of the skater that works out to play roller derby, but a lot of us overlook our practices as "exercising" or "working out".

Why? We go to practice for 2 hours (or so). We sweat, we work hard, we breathe heavily. Occasionally we're sore afterward and we're slamming back water during. That sounds like a workout to me.

This mindset probably comes from the fact that derby has just become "something we do". We've adapted to practice, it's part of our weekly routine, and it doesn't feel hard anymore. This is rooted further in the "no pain, no gain" mentality, but it's time to recognize that practices are WORK.

Your cardio is {wiggidy} whack, yo.

Derby skaters are a little less prone to believing all the crazy cardio myths that plague the average population, but skaters have their own weird cardio hangups. You might remember the skater I mentioned earlier that practiced 3 times a week and cross trained 5-6 times. That skater also participated in bouts of HIIT (high intensity interval training) that lasted 45+ minutes! She was convinced that huge amounts of HIIT would increase her cardio endurance for jamming.

Again. Sound familiar?

This is still a part of the "if a little is good, a lot must be better" and "no pain, no gain" mentality that so many skaters (and other amateur athletes) get caught up in. We already know that giving your body little to no time to rest -- especially between high intensity bouts of exercise -- can lead to fatigue and performance decreases.

And remember, stamina in roller derby isn't all about cardio endurance. Your muscles are a big part of the equation too. That doesn't mean cardio is bad for you or that you shouldn't do it, but you should be cognizant of how much cardio you're doing and whether or not it's actually helping you meet your goals.



You get distracted by -- SQUIRREL!

Ah! The “shiny object reaction”. This is the bane of any intelligently designed cross training program. You’re plugging along, following your cross training plan and seeing some good increases in your strength, speed, and stamina. You’re on your way to meeting your goals. NICE WORK!



Then, your derby wife calls you up and tells you all about her new obsession with PiYo. (I seriously have no idea what this is and am not knocking it, but it’s been showing up on my Facebook feed an insane amount. It was just the first example that popped into my head. And I know how sensitive Cross Fitters can be, so...)

Oooo, PiYo? That sounds fun.

So you abandon your cross training program -- which is working, by the way -- to get PiYoing. Maybe this new “shiny object” helps you reach your goals, too. But maybe not.

This doesn’t mean that you can’t ever completely jump ship and try a totally new training regimen. But it means that, if you’ve got something that’s working (or just needs minor adjustments to get working), then you need to stick with it for awhile; usually say 2-3 months, but that’s up to you. It’s your program. It’s your experiment.

You don’t {rest, eat, sleep} enough.

There’s already been an entire section talking about the importance of rest (as in not working out EVERY DAY). But rest is just a part of the trifecta:



You’re an athlete. In order to perform at your best on the track, in the gym, and in your life you need to take care of the machine that is your body. It requires food that isn’t just beer and liquid nacho cheese. It requires around 8 hours of sleep a night. And it needs to have days where the most strenuous thing that you do is walk to the mailbox.

I can hear you! You have late practices, you have kids, you have a life! You won’t always eat meals that are chock full of



veggies. You won't always get 8 hours of sleep. You won't always be able to rest on your rest days.

Do your best. Set the trifecta in your mind and go about meeting it the best you can everyday.

P.S. -- If your body is telling you to take a nap instead of workout. Do it.

The Grand Experiment

Now that you have some background knowledge, the rest of this book is going to take you through the process of creating a cross training program that works for you (or adjusting a program that's **almost** working).

You're about to embark on a journey of scientific experimentation. It's not a perfect, double-blind study, but it doesn't have to be. You're working with an organism that you know really well -- YOU. This is a chance for you to start getting in touch with what your body is telling you so that you can skate better, cross train better, and just be better, overall. (I promise I will not force you to sing "Kumbaya" while holding hands, *I'm not that into feelings.*)

There are a few things that you'll need to help make this foray easier:

1. A CALENDAR

Start with a blank monthly calendar. In the beginning, it will be best to do your experiment in increments of a month (or less). You'll be using this to write down all your team commitments that involve training. This includes practices, scrimmages, bouts, required off-skates work, etc.

2. YOUR LEAGUE/TEAM CALENDAR (see above)

3. DATES OF OTHER IMPORTANT THINGS THAT COULD AFFECT YOUR TRAINING

Are you going out of town? Getting surgery? Solely responsible for all kids/cleaning/cooking/work on M/W/F? Have excruciatingly long staff meetings every Tuesday night? Keep those in mind.

4. A LIST OF ALL EQUIPMENT YOU HAVE AVAILABLE TO YOU

It's okay if this list is in your head, but you'll need to know whether you can do barbell, dumbbell, or kettlebell work. Or if you are working with resistance bands. Or solely bodyweight. This also applies to knowing how the most important piece of equipment (your body) is functioning. If you have problem areas, those shouldn't be overlooked during your planning.

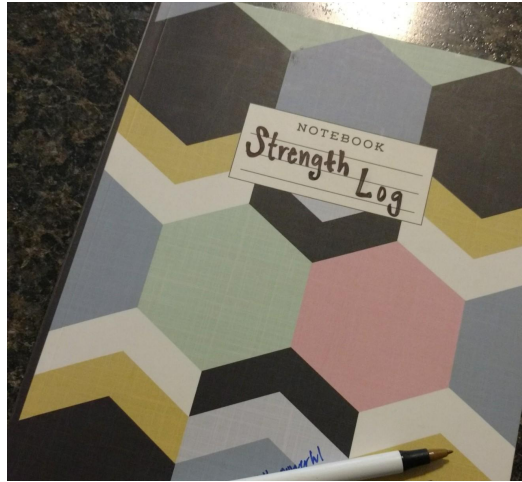
5. A GENERAL IDEA OF YOUR GOALS

Bring to the table the 1 or 2 goals you decided upon earlier. You need to have a solid idea of what you **really** want to get better at or work on.



6. A STRENGTH LOG

This is a notebook where you'll keep track of every workout you do. The specifics of how to track will come later, but you need to have one. There are apps available for this purpose, but I prefer pen and paper. Because I'm weird.



Old Fashioned: You can't see it, but that's a quill pen.

7. AN OPEN MIND & A WILLINGNESS TO TRY NEW THINGS

Scientific experiments don't often go smoothly and there's usually a fair amount of going back to the drawing board. I promise that it's worth it once you hit on the correct formula. You'll be a little uncomfortable at times -- like when you realize that you will only be cross training 2-3 times a week instead of 5-6 -- and you'll have a lot of doubts. Be patient. Trust the process.

Let's get kraken! (Oh my god, it **never** gets old.)



SECTION TWO: The Frame

Setting Your Schedule

Got your blank monthly calendar? Great! Take a minute to sit down and fill out all of your physical activity commitments. These are things like practices, bouts, hikes, off skates training, etc. that you know for sure you are committed to. **DO NOT WRITE DOWN THE DAYS YOU CROSS TRAIN!** You'll base those on what you see on the calendar when you're done.

Here's an example of what your calendar might look like:

January 2016						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4 Team 7-9	5 Team 9-11	6	7	8	9
10	11 Team 7-9	12 Team 9-11	13 Team 9:30-11	14	15	16 Away Bout
17	18 Team 7-9	19 Team 9-11	20	21	22	23
24	25 Team 7-9	26 Team 9-11	27 Team 9:30 - 11	28	29	30
31						

This is my own schedule. My league only requires 8 practices per month, so I might decide that I don't want to go to all of the team practices. If that's the case, you can simply put an x through them or leave them off the calendar completely.

It's important to note that just because your team or league offers a practice doesn't mean you HAVE to go. This is a pretty unpopular view, but you want to use the suggestions in the first section of the book ([HERE](#)) to determine how many practices you should attend given your skill



level. You know yourself best, so make sure you're attending the practices where you will get the most bang for your buck. (On a side note, if you are on a rankings competitive team, my recommendations are less accurate. A highly competitive team needs to practice together A LOT to remain highly competitive.)

My league actually offers 4 practices a week. You'll notice I didn't put them all onto my calendar because I'm at a point with my skating where attending the Fresh Meat or endurance practices offered isn't going to create as much growth for me as cross training will. Again, it's really important that you are able to realistically assess where you are skating skill-wise in order to create the most effective schedule.

This calendar will act as the baseline for your cross training schedule. If you skate for a recreational league or in another situation where you don't have practice requirements, I recommend that you write down all of the practices anyway. As you go through and assess your cross training goals and needs, you'll be able to cross out and rearrange your schedule as you see fit. YAY, flexibility!

Assessing Your Need

How often should you cross train?

What days should you cross train?

When should you rest? And how much?

These are the needs that have to be assessed as you determine your cross training schedule. Here are some important things to keep in mind:

1. How often are you going to practice?

Remember that practice counts as a workout. There are obviously exceptions to this, but if you are going to a normal practice, you need to block that day off as a day that you've already exercised. In the calendar above, I am already exercising anywhere from 2-3 days per week simply by going to practice.

2. How often are you going to cross train?

Ideally, for the most growth and improvement, you want to shoot for your practices and cross training to add up to 5 or 6 days per week *MAXIMUM*. That gives you at least one day of full rest and recovery. Your cross training experience and goals will be a big determinant of exactly how often you want to cross train vs practice vs rest. For me, I know that I can usually cross train 3 days per week without any performance decreases, injuries, insanity, etc.



Enjoyment is also a factor here. I really enjoy what I do for cross training, so I want to do more of it. If cross training was a chore for me, I could still see improvement with 2 days of cross training. Those two days just need to be intelligently designed.

If even starting cross training is daunting, start small. One day a week sound good? Great. Do it. It's okay that you're not suddenly jumping into heavy cross training. I promise.

3. What else do you need time to do?

This is where you want to think about other things that you might want to do instead of your typical cross training. Or a specific and important event that you might want to adapt your cross training around.

In the Pacific Northwest, in the winter, snowboarding is huge. (I hate it. In fact, the first -- and last -- time I ever went snowboarding the instructor suggested I try a different sport. But, I digress.) Let's imagine that I wanted to take a day off of work and go snowboarding. For that week, I now have 2 practices that I'll attend and 1 day that I'll be snowboarding. I would need to adjust my cross training accordingly now that I have an extra day of physical activity. During the summer, I typically go for long hikes with my family twice a month. On weeks that I have hikes scheduled, I scale back my cross training to 2 times per week because I'll spend that hike day walking 10+ miles.

Bouts are something else that can affect your cross training schedule. Going into bouts rested is super important and that might require you to adjust your other training to give yourself time to physically (and mentally and emotionally) prep for the bout.

4. Are there any other things you need to work on?

The term "rest day" is sometimes a misnomer. There are REST rest days (where you don't do any sort of physical activity above and beyond your typical day) and ACTIVE rest* days (where you do a light physical activity, but not a full workout).

- Rest does not come easily for many a derby skater, especially when they've been in the "workout to play derby" camp for a long time. So here's the deal: an active rest day consists of activities like strolling through your neighborhood, taking time to smell the roses. It does not consist of a forced march to the end of the block and back. You could do gentle yoga that focuses on stretching on an active rest day, but does not focus on holding strenuous poses in a 108 degree room. Doing 10 minutes of HIIT instead of your usual 60 minutes IS NOT AN ACTIVE REST DAY. Anything that gets your heart rate higher than 110-120 beats per minute range or has sweat dripping off of you at any point is not active rest.

You can use additional days where you aren't skating or heavily cross training to tackle other issues: like prehab.

I really love foam rolling. I like to make sure that I do it at least once a week and consider that an active rest day. I also have prehab routines that I do because I have problem areas: my shoulders, my ankles, etc. Those are usually scheduled for active rest days too. I originally started scheduling the active rest days as a way to bridge the gap of my "Go, go, go", "No Pain,

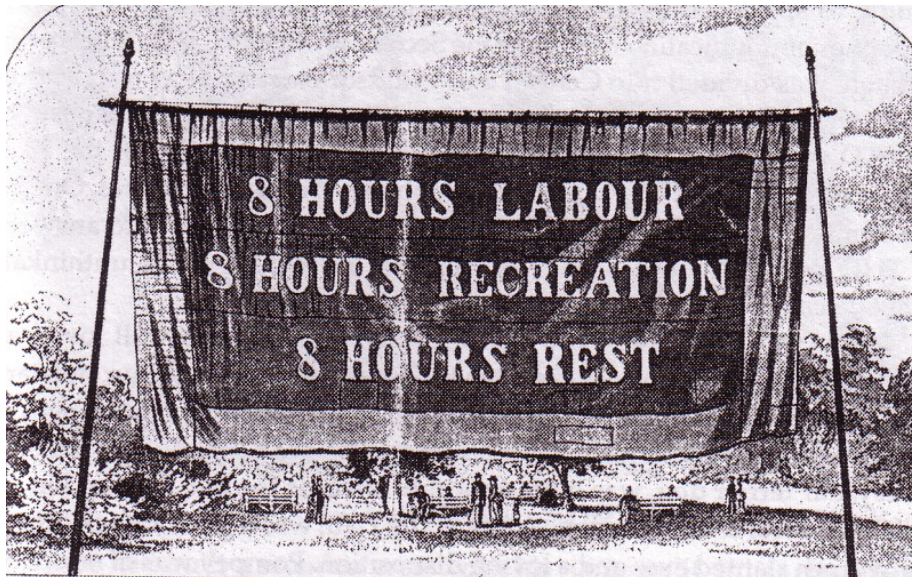


No Gain” mentality. I was used to working out ALL THE TIME and needed to recreate that feeling. However, most of my prehab routines are short (10 minutes) and now that I’ve broken free of my old mentality, I tack them on to the ends heavier cross training days. This isn’t necessary, but more full rest days have become important to me.

Most of these decisions are personal to you. Do you need full rest days? Do you need to do prehab? What do you want your schedule to look like?

5. How often should you rest?

Whether we’re talking about REST rest days or ACTIVE rest days, it’s important to know how many you want. Or how many you should think about taking. It’s nice to have at least one full rest day. Anything else is determined by your goals and wants.



Rest is more than sleeping.

6. Can you double up?

Two-a-days (where you practice/workout twice in one day) are fine. Sometimes. But a constant schedule of two-a-days is a huge stressor to your system and is unsustainable for the long haul.

However, roller derby practice schedules are hard to work around and two-a-days might be unavoidable. If you’re going to double up a workout and a practice, try to keep it to once a week. And pay close attention to how your body responds. You may find that a two-a-day once a week is fine. You may have to do a two-a-day every other week. Or you may have to scale back your cross training days because two-a-days just aren’t for you.

The question of two-a-days also leads us back to rest. I highly recommend that if you are doing a cross training workout plus a practice on any given day, the next day is a rest day. Like a real



rest day. Not a practice day. Not a moderate intensity cardio day. A LIGHT prehab workout, some foam rolling, or gentle yoga -- maximum. But seriously, just rest.

The most important thing to keep in mind when you're creating your schedule and assessing your need is this:

There is no right answer.

Or EVERY answer is the right answer.

I guess your view depends on whether you're a glass half full or a glass half empty kind of gal. It's important to remember that ***the right schedule is the schedule that works for you.*** If your schedule stops working for you, change it.

We'll get into the minutia of how to know if your schedule isn't working for you a little bit later. Right now just know that starting light is always better. Even if it's going to feel weird at first.

Case in point, I was training a skater that I had scaled back to 3 cross training sessions per week when she was used to 5. She kept messaging me and calling me and emailing me, "I have so much energy. I'm not working out enough. Can't I just do one more day? Like a HIIT routine or something?" I'm sorry what? **record scratch** You have TOO MUCH ENERGY? What does that even mean?

Too much energy...psssh.

Here's what my → schedule looks like now.

You'll have weeks when your cross training doesn't fit perfectly. Like the week of January 4th where I cross trained 2 days in a row. I hate not having a rest day after cross training, but I wanted to fit all my sessions in because I knew

the next week was a light week since I was playing in a bout. I could have gotten to January 7th and realized that 2 days in a row just wasn't going to work for me and not done it. THAT'S OKAY!! This schedule is not set in stone.

January 2016						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 prehab	2 Cross Train
3 rest	4 foam.roll Team 7-9	5 rest Team 9-11	6 Cross Train	7 Cross Train	8 prehab	9 Cross Train
10	11 Taper Week Team 7-9	12 foam.roll Team 9-11	13 Taper Week Team 9:30-11	14 rest	15 foam.roll	16 dynamic.w/u Away Bout
17 foam.roll	18 Cross Train Team 7-9	19 foam.roll Team 9-11	20 Cross Train	21 prehab	22 Cross Train	23 rest
24 rest	25 foam.roll Team 7-9	26 Cross Train Team 9-11	27 rest Team 9:30-11	28 Cross Train	29 prehab	30 Cross Train
31 rest						



Designing Your Program

HERE'S MY QUICK DISCLAIMER BEFORE WE START THIS SECTION:

As always, you want to make sure that you are ready for exercise before you start doing it, so get clearance from your doctor. But more than that, given that you play a full contact, high speed sport, you should spend some serious time with a Physical Therapist. These people work magic, for real. They go to school specifically to assess and fix muscle imbalances and kinetic chain dysfunction. They can do manipulation and mobilization techniques to work on less functional areas and help you figure out how to go about keeping those dysfunctions from happening again. If you need a referral from your regular doctor, I guarantee you that you can find some nagging problem with your shoulders or ankles or lower back that a Physical Therapist would be great for.

A lot of Personal Trainers can give you movement assessments, but it's really beyond their scope of practice to provide you with a concentrated program to fix what's wrong. Physical Therapists can. Seriously consider putting one into your Rolodex of care providers.

Now that you know *when* you're going to be cross training, the second piece is *what* you're going to be doing. There are a million ways to get great cross training in, so it all depends upon what your goals are, what you like to do, and what you have access to.

So let's dig into the nitty-gritty. I'm a super nerd when it comes to all of the variables that you can play with in terms of cross training, but I've also found the thing that I really love and that works for me (powerlifting). If you don't have something that calls to you, that's fine. Pick something that piques your interest and start your intelligent cross training there. You'll get a chance to evaluate and adjust your program in a bit and decide if you like it, want to stick with it, or are ready to move on.

ALL THE THINGS!!!

You probably already know that there is a ton of stuff out there that could potentially fit into your cross training. Barre classes, running, spin, crossfit, ballet, yoga, parkour, insert a million other things -- so what do you choose?

The best workout is the one you'll actually do, so **choose what you'll do**. Choose what you're excited about. Choose what fits your goals.

I already talked {a lot} about [why I think every cross training program should primarily consist of strength training](#), but don't get bogged down by that if strength training doesn't interest you. There are certainly other viable ways to improve your speed, stamina, and strength that don't involve pumping iron.

The good news is, if you pick something and hate it or pick something and it doesn't work, you can always start again.

For your primary cross training, focus on something that seems like it will have a good carryover to roller derby.

How will you know? Think about what you do in practice, scrimmages, and bouts out on the track. Will the program you want to start directly improve or closely mimic one or more of those things?



There is research that indicates that strength training can directly impact speed, agility, and stamina in athletic events, but there's not a lot of research on whether or not Zumba does. If Zumba appeals to you, figure out where it specifically might help you. Do you struggle with balance and you think Zumba will help you improve it? That sounds reasonable, give it a shot. Do you struggle with making solid contact when you hit someone? Maybe Zumba's not the best choice.

BUT! The great news about intelligent cross training is that if you REALLY like something, you can **test for yourself** whether there will be carryover to your sport and/or improvement in your goal areas. By the end of your first month of Zumba, you'll have collected data on whether or not it's helping you accomplish what you set out to do. Then you can decide what's next.

Bodyweight vs Dumbbells vs Barbells vs Kettlebells vs Resistance Bands...and so on and so on and so on

You decide that you're on board with strength training and you're itching to get started. Then you realize there are SO MANY different ways to strength train and freeze. Paralysis by analysis.

At first, the type of strength training method you'll use will be determined by what's available. If you don't have access to a gym (or don't want to buy a membership), but have dumbbells or kettlebells, you'll probably want to use those. If you don't have any of that, you can buy them, get a small set of resistance bands, or choose to start working with your own bodyweight.

Bodyweight is a great starting point, especially if you feel like you might have a lot of movement issues (get thee to a Physical Therapist!). If you're not sure if your squat form is good or you have chronically tight calves or your pelvis is shifted -- a pretty common issue with long time derby skaters -- you don't want to start throwing heavy loads up.



Again, it comes down to what interests you. If you constantly try not to make creepy eye contact with the lady swinging kettlebells at the Y because you want desperately to see what she's up to, then start with kettlebells. If you love watching the bros at the gym grunt as they move the bench press bar 1 ¼ inches, then maybe powerlifting and barbells are your thing.

Just make sure that if you've never done it before you get help from someone that actually knows what they're doing (probably not the bros).

When you get into strength training, regardless of what implement you use, form counts for everything. So check your ego at the door, get your form right, and THEN start showing that stupid kettlebell lady who's boss by lifting crazy heavy loads.



Sets & Reps

Most people just guess what to do, when, and how much when it comes to strength training. And that's totally fine when you're doing intelligent cross training because you'll be monitoring what works and adjusting what doesn't. However, there are some general, scientifically tested (and approved!) recommendations for how much of what to do depending on your goal.

And it always helps to have a starting point.

Goal/Adaptation	Reps	Sets
Muscular endurance/stabilization	12-20	1-3
Hypertrophy (gaining muscle size)	6-12	3-5
Maximal Strength	1-5	4-6
Power	1-10	3-6

TABLE ADAPTED FROM: Clark, M. A., Sutton, B. G., & Lucett, S. C. (Eds.). (2014). Integrated Program Design and the Optimum Performance Training Model. In *NASM Essentials Of Personal Fitness Training* (p. 360). Burlington, MA: Jones & Bartlett Learning.

Using this table, you can match up your specific goal to the rep and set range that will most quickly help you get there.

A note about my own training and the training I program for others:

Roller derby isn't really a sport where muscular endurance is necessary. I know that sounds weird. Aren't we skating hard for an hour or more? But if you really break down roller derby and study how roller derby skaters move during bouts (and the cellular energy system they use), we aren't "enduring". Not really.

Roller derby is a game of quick starts and stops and brute force. Those things (acceleration, deceleration, speed, power) require lower rep ranges and higher sets. Depending on your goal, training in hypertrophy, maximal strength, and power are all valuable for the derby skater.

However, if we're talking about fixing an imbalance, working on a very specific weakness that you have, or if you are new to cross training, you want to be training in the muscular endurance and stability zone. I've worked with several fresh meat skaters who really struggle with their balance, so I assign them bodyweight stability exercises as their strength training where they are doing 12-20 reps at a slow pace.

The last question that inevitably comes up when talk of sets and reps starts is: How do I know how much to lift? And the answer to that is a lot simpler than you might think. Once you've determined the rep range you'll be working in, you pick a weight that ensures you work in that



rep range.

For example, if I wanted to work in the maximal strength rep range (1-5) and I was doing a Bulgarian Split Squat, I would choose a weight that caused failure** within that rep range. Let's say I chose 50lbs and I can *just* get 5 reps -- that's the perfect weight for this adaptation. If I had started with 30lbs and been able to do 10 or 11 reps before failure, I would have known that I chose a weight that was too light.

- The term failure here is up for debate. I typically recommend stopping when you think, "I *might* be able to do one more rep. But it'll be dicey."

If you don't think you're ready to jump into that intensity, you can make your best guess of what your maximum weight will be (or have someone do some [rep max testing](#) for you) and work up your intensity by using a percentage of that weight.

Without getting into the weeds too much (!), that means starting week one at the lowest number of sets and the highest number of reps at some percentage of your max. You can also just choose a weight that "seems" right and adjust from there. In your second week, you'd increase the sets by one, but keep the weight the same. Week 3, you'd keep the sets the same, but decrease the reps and increase the weight. And so on and so on.

Here's a 4 week example in the strength endurance/hypertrophy range:

WEEK	SETS	REPS	INTENSITY (% of max)
1	2	12	70%
2	3	12	70%
3	3	10	75%
4	4	8	80%

Full Body vs Splits

This is a question of what parts of your body you'll train on which days. Will you work on all the parts of your body every time you cross train? Or will you focus on specific body parts (legs, chest, back, shoulders, etc.) on specific days of the week?

The best advice I can give you here is to do what you want and collect data on it. I used to do full body work because it seemed like a good way to get the most of my time every time that I cross trained. But my body responded MUCH better once I started moving to split days. On the flip side, there's a skater that I train that experienced the exact opposite.

The only way you'll know what will be most successful for you is to pick one and try it out. Your strength log will tell you whether it's working and you can adapt later, if necessary.



HIIT vs MIC



Brace yourselves, the cardio talk is coming.

I'm going to be totally forthcoming with you and tell you that I hate cardio. Or rather, my body does. Once I started using intelligent cross training for myself, I noticed that I made much bigger gains in strength and speed when I didn't do it. My stamina suffered a little (especially over the off-season) but once I started attending practices regularly again, I rarely noticed a time when I was more out of breath than I was used to. My data spoke for itself.

That being said, I know derby girls {and boys} love their cardio. Especially the high intensity interval kind. But high intensity training is a balancing act and if you're not careful you'll topple off the edge into overtraining pretty quickly. There's a second option, steady state cardio, that sometimes gets added into cross training. Usually by those skaters that just love to run or cycle or hike. (I like to call it moderate intensity cardio or MIC because "steady state cardio" gets a bad rap. I got that name from [Girls Gone Strong](#) -- another amazing resource for cross training derby folk.)

So how much should you do? Probably less than you are.

If you want to maximize your athletic performance, you really only want to spend 1 day per week on HIIT (around 20 minutes) and 1-2 days on MIC (30 to 45 minutes).

That's sounds doable, right? Until I tell you that the practices you attend each week likely cover the MIC component of that.

That leaves you with one day of HIIT cardio. That lasts about 20 minutes. Maximum. Are you panicking yet?

I've worked with my fair share of skaters that couldn't physically imagine what it would look like to scale their cross training program back that far. And yet they did. They survived. And, surprise(!), they kind of love it.

Tracking Your Results

I'm a perfectionist. So when it first came to recording my workouts I had excel spreadsheets and highlighted calendars and everything got cross referenced. It was beautiful, but a pain in the ass.

It occurred to me that the idea of writing every workout down might be a barrier for some people



just because: How in the hell do I do that?!?

I don't want the idea of recording the data to keep you from actually recording the data. I don't want it to get in the way of your working out. I don't want it to become a big deal. **But I do want you to do it.** Because tracking your results is how you assess how well your experiment is working.

There are a lot of different things you can track when you're looking at your workouts, but they fall into two main categories: subjective data and objective data. Or qualitative and quantitative, if you prefer.

SUBJECTIVE DATA (or qualitative data) is data based mostly on how you feel. Was this workout easier than the last time I did it? Does this weight feel like it goes up smoother this time than it did last time? Am I breathing harder now? Subjective data is certainly valuable, so don't knock it. You want to feel less winded or exhausted when you're skating, right? And subjective data can give you important correlational data like: workouts feel more difficult for me the week before my period starts or I really shouldn't eat gluten right before I workout because I couldn't even reach my baseline data. (By the way, I will take your extra gluten. Just pour it directly into my mouth.) **It's data based on the quality of the experience.**

OBJECTIVE DATA (or quantitative data) is data based on numbers. Cold hard facts. Am I using more weight today? Am I doing more sets or reps today? Do I weigh less/more than I did the last time I checked? What's my body fat measurement? What are my circumference measurements? What does my fitness testing data say? Objective data gives you a concrete view of whether you are actually improving over time. **It's data that can actually be quantified and counted.**

When it comes to deciding how to track your own results, don't favor collection of one type of data over another. They both offer very important markers of whether your program is working. Here are some specific things you can track within each data category:

SUBJECTIVE	OBJECTIVE
Quality of Movement <ul style="list-style-type: none">Reps felt easier/harder todayForm felt off/on	Load <ul style="list-style-type: none">weight lifted for each individual exercise (i.e. I'm doing a 45lb bench press)
Quality of Workout <ul style="list-style-type: none">I feel great/awfulI loved/hated this workout	Volume <ul style="list-style-type: none">weight lifted total (i.e. I did 5 reps of a 45lb bench press so my total volume is 225lbs)volume can apply to the volume of one specific exercise (bench press) or all of your exercises in that workout (or both!)
Modifications <ul style="list-style-type: none">Next time try...	Time <ul style="list-style-type: none">either the time it takes to complete each individual set or the entire workout



Videos <ul style="list-style-type: none"> I think videos are subjective because you have to look at them with a critical eye (and sometimes we're too critical) 	Density <ul style="list-style-type: none"> volume x time
Before & After Pictures	Body Measurements <ul style="list-style-type: none"> body fat %, circumferences, scale weight
	# of sets
	# of reps

There are probably multiple other pieces of data you could collect in one or both of these categories, but these are some of the most basic. Collecting and processing this information is a hugely important step toward getting your mind-muscle feedback loop back into place.

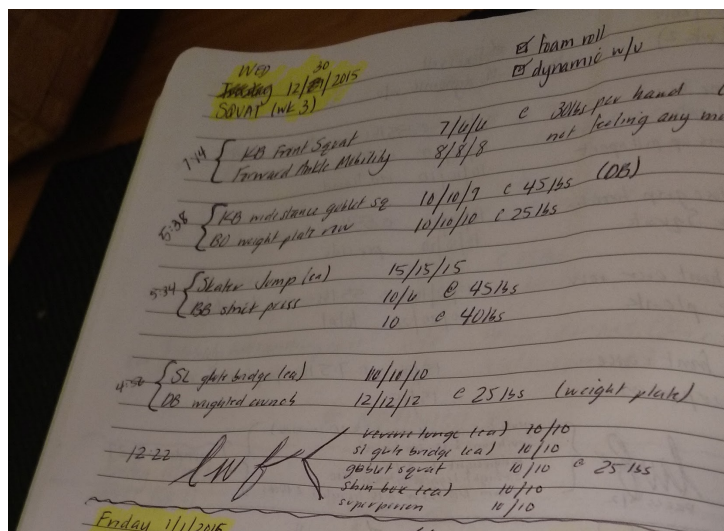
So how do you collect all this data? Your strength log! Always go into your strength log and the idea of collecting data with this thought in mind: **When in doubt, write it out.** If you planned on doing a kettlebell workout, but only had dumbbells handy -- write it down. If you used a blue resistance band or a red one -- write it down. If you change weight in the middle, if you use a non-conventional grip, if you were distracted by that hot chick on the treadmill -- write it down.

At this point you're probably thinking, "Great Prime. But **HOW** do I write it down." The answer is (as you might be catching on to) however works for you. But I get it, I didn't keep a strength log when I first started because I just didn't know what to write down or how to organize. I just wanted someone to tell me or show me.

You got it:

← Here is an example of a typical day of working out in my strength log (sorry if it's a bit blurry).

I started with a superset of kettlebell front squats and forward ankle mobility. After each individual exercise, I put the total number of reps for each set. For the KB front squat it says 7/6/6 which means I did three total sets. My first set had 7 reps in it and my second and third set only had 6. The mobility exercise says 8/8/8 which means 3 sets total with 8 reps in each set.



After the exercise description and rep/set data, I've listed weights (if there were any) followed by any subjective data. I was lifting 30lbs per hand on the KB front squat and it says that I'm "not feeling any more flexible" next to the ankle mobility sets/reps. You can also see that I listed (DB)



next to the KB front squat which means I used dumbbells instead because my gym, for some reason, only has one 12lb kettlebell.

To the left of the exercises, outside the parenthesis, I recorded the total time it took me to complete that superset (7 minutes and 14 seconds). And at the end of all of my strength supersets -- which are set up the same way as the one described above -- I listed out my finisher* and recorded the total time that it took me to complete that.

- My finisher is labeled as "lwf" because I've been using quick workouts from a program called [Lift Weights Faster](#). The program and it's author, Jen Sinkler, are incredible. I suggest you check them out!

This is the way I record my workout data. You might want to record more (or less) and that's great! But if you're stuck on how to get started or what to write down, you can organize it this way until you get a feel for what you like and what works for you.

Recording objective, quantitative data is simple when you're focusing mostly on strength exercises or workouts. What if you decided that PiYo or Zumba were right for you? Your data's going to be a little bit more subjective. Do you feel better/stronger/faster than you did before? This is one of the reasons why, if you're going a route that is harder to collect objective data about, you NEED to do baseline testing and videotaping before hand.

Making Adjustments

All this data you're collecting may seem like overkill, but it's how you determine whether your program is actually working. It's also how you continue to grow within your program so that you reach plateaus less often and have a better idea of how to break out of them when you do.

Giving you a concrete answer on how to make adjustments to your specific program at the specific time that you need it is well beyond the scope of this book (unfortunately). If you ever want to chat about your program, figure out how to improve it, or continue to grow within it, you can [contact me for a coaching call here](#).

That being said, it will be helpful for you to be able to see the process, so we'll walk through two separate examples of what analyzing your data and making adjustments might look like.

Example #1 -- STRENGTH TRAINING

This skater sticks to a simple strength training routine that has her doing 3 sets of 8-10 reps because she is working on hypertrophy before she moves into maximal strength and power training. She has decided to stick to 4 main lifts: back squat, bench press, strict press, and deadlift.

On day 1, she recorded this in her strength log:

- Back Squat 10/8/7 @ 110lbs



- Bench Press 8/7/7 @ 55lbs
- Strict Press 10/10/10 @ 40lbs
- Deadlift 7/6/5 @ 125lbs

There are a few things that this skater can analyze and adjust immediately.

First, her strict press weight is a little light if she's able to easily complete 10 reps in all 3 sets. She'd want to increase her weight next time. Depending on how easily she was able to complete the reps, she could increase anywhere from 2-5lbs for the next day's workouts. (I recommend going up by 2lbs for women on upper body exercises unless they are really easy. And typically increasing 5lbs on lower body exercises. You'll discover how quickly and how much you can increase your weight as you get used to lifting.)

Second, her deadlift was a little heavy since she never actually made it into the hypertrophy range of 8-10. This isn't a huge deal and gives her two choices: 1) if she feels like her form is suffering at this weight, she should drop down a bit OR 2) if her form is good, but the weight is just heavy, she can keep lifting this weight and shoot for a greater number of reps next time.

On day 7, she recorded this in her strength log:

- Back Squat 10/10/10 @ 110lbs
- Bench Press 10/9/8 @ 55lbs
- Strict Press 9/8/6 @ 45lbs
- Deadlift 8/8/8 @ 125lbs

This skater is now ready to increase her weight on the back squat-- assuming that her form feels solid -- and has improved significantly in the bench press (increased total reps by 5 and total volume by 275lbs) and deadlift (increased total reps by 6 and total volume by 750lbs).

This sort of monitoring and adjustment works for any method of strength training with increased strength endurance or hypertrophy as the adaptation goal. Basically, once you are easily completing the highest allotted reps within that adaptation range, you can increase the weight and work your way back up again.

Example #2 -- CARDIO TRAINING

This skater is trying to increase her cardiorespiratory recovery for jamming, so she's decided to complete a HIIT circuit once each week. She doesn't want to just rely on subjective measures -- "I feel better when I jam" -- so she's decided to time her circuit.

On day 1, she recorded this in her strength log:

- Skater Hops (ea) 5/5/5
- Curtsy Lunges (ea) 10/10/10 @10lbs per hand
- Lunge Jumps (ea) 5/5/5



- Walking Lunges (ea) 10/10/10 @ 10lbs per hand
- Circle Runs (ea direction) 3/3/3
- One-footed Hops (ea) 5/5/5
- REST 30 seconds at the end of each circuit

This skater completed this circuit in 13 minutes and 42 seconds on day 1. She could also make note of her heart rate directly after completion of the circuit and her recovery time (how long it takes her to feel like she could do it again at the same pace).

In this situation, it will be best for this skater to set a time goal. She wants to work on this circuit exactly as it is until she completes it in under 9 minutes. Once she's reached her time goal, she can add another exercise onto the circuit or add additional rounds (4 reps of everything) and create a new time goal.

There are always additional ways to analyze and adjust your data and (just like everything else) it depends a lot on what you're doing.

ENDURANCE & STABILITY programs, workouts, or exercises are primarily going to be adjusted by increasing or decreasing the difficulty of the exercise. You'll usually want to progress from a more stable exercise to a less stable one as your skill at the given exercise improves. For example, if your goal is to improve balance, you might start with a 1 legged stand for 30s and once that becomes easy, progress to a 1 legged stand with your eyes closed for 30s. When adjusting endurance or stability, you want to increase the difficulty and challenge level of an exercise without changing the exercise itself. This is often how you will progress if you are using bodyweight only.

split squat → walking lunge
 walking lunge → bulgarian split squat
 bulgarian split squat → single leg squat to box
 single leg squat to box → assisted pistol squat

HYPERTROPHY & MAXIMAL STRENGTH programs, workouts, or exercises are primarily adjusted according to completed reps and sets. This was illustrated in the first example above. You can always use a similar progression as with endurance and stability as well. It's especially helpful if you're the type of person that gets bored! But remember to stick with one program, workout, or exercise long enough to determine if it's actually working for you before you progress it or abandon it all together.

POWER programs, workouts, or exercises can be progressed using weight and time. Power exercises should be completed with the prescribed rep ranges as quickly as possible with good form (which means you'll need to lighten up the load, if you're using one). Timing your power exercises is a good way to determine when you're ready to increase your weight or resistance. Just like with cardio programming, you can set a time goal and once you've reached it, increase the difficulty.



There are a million (and one) ways to adjust your training program. The big key is simply to pay attention to what you're doing. Put your body's feedback loop back into place. The data in your strength log will give you the information you need to decide whether to PREgress an exercise, PROgress an exercise, continue with an exercise as it is, or dump an exercise altogether.

Once you know what to look for (and how to make it for you) you can have a lot of fun designing your cross training program.



SECTION THREE: The Interior

The 4 Big Movements

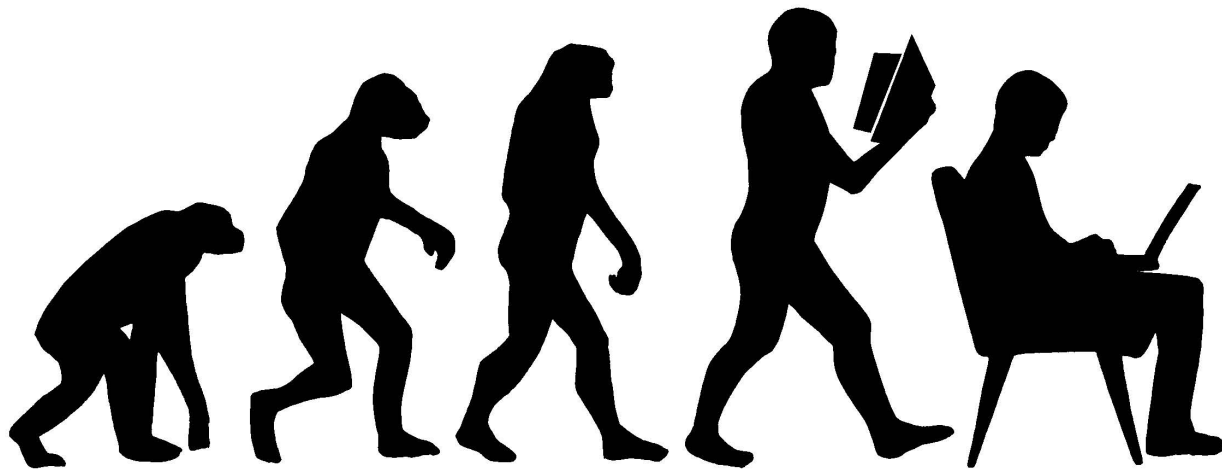
When it comes to strength training, and designing good programs to increase your strength, it can feel overwhelming to know where to start.

How do you know what exercises to include?

How do you make sure you're not creating new imbalances as you work out?

How do you gain strength in the areas of your body that roller derby doesn't develop?

The easiest thing is to stick with what are widely considered the 4 main movement patterns that your body can create. (**SIDE NOTE:** There are actually 7 primal movement patterns, but many of them can be grouped together to create these 4 main patterns.)



The importance in breaking down human movement into 4 basic patterns is that it gives you 4 things that you need to become really good at before you start adding crazy loads (like that 500lb deadlift from earlier) or moving to crazy variations (like back squatting while standing on a stability ball -- but please don't do that, seriously, it's just stupid). Even if you have no interest in throwing up insane lift numbers, if you can manage to perfect your form in each one of these movements, all of the rest of your movement will fall into line. And learning new movements and new variations will be much, much easier.

The movements that you need to master so that you can build a solid and safe cross training program are:



1. SQUAT

Despite what it might feel like, you are not automatically proficient at squatting just because you play roller derby. Along those same lines, you do not automatically have “strong” legs just because you play roller derby, but that’s a separate issue.

The squat is known as the “king of all exercises” because it engages a surprisingly large number of muscles, connective tissues, and joints. All of these pieces have to be functioning optimally -- or close to optimally -- in order for a solid squat to occur. That ultimately means that a lot can go wrong in your squat because of all the moving pieces.

2. HIP HINGE

The hip hinge is hamstring and glute dominant where squats are more quad dominant. This is an incredibly important movement for roller derby where strong glutes (and hammies!) can give you an insane amount of pushing power. Hip hinges often get executed with the lower back musculature rather than the glutes and hamstring -- the next section talks a bit about why -- so this is another move that needs to be mastered fully before it gets loaded heavily.

3. UPPER BODY PUSH

Think pressing movements. These are the big rocks of any serious bro’s lifting routine. “It’s chest day, bro.” Push movements, done incorrectly, can put a heavy toll on your rotator cuff and shoulder stability. Case in point, raise your hand if you do push-ups with your arms winged all the way out at a 90 degree angle from your body like a startled ostrich. (Can you raise your hand? Or does your shoulder hurt too much?)

4. UPPER BODY PULL

Rows, really. Anything that is activating your back musculature (lats, traps, rhomboids) and helping your shoulder blades retain their optimal movement. Our back muscles often get neglected in today’s society and the upper body pulling movement often gets taken over by secondary muscles instead of the ones that are being targeted. There’s a quick test! If you look at your profile in the mirror and your shoulders droop or round forward, get to pulling!

***Almost every other movement out there can be performed,
with minimal instruction, if you can perfect these four.***

This is why going to see a Physical Therapist is so important! They can assess each of these movements for you and tell you where your movement is breaking down (if it is) and provide concrete exercises -- or manual manipulation -- to fix the problem all under a watchful eye. Personal Trainers at your gym are also capable of doing full movement assessments on each one of these movements. You can also schedule a video [coaching call](#) with me to do these



assessments as well. However, neither I, nor a Personal Trainer at the gym can really diagnose. The best we can do is make educated guesses and work from there.

If you have struggled with any of these movements in the past or know that you have limitations in specific joints (ankles, shoulders, knees) you will see a more significant degree of growth in your strength if you can get those things worked out and do the movements properly.

GOOD NEWS!! Once you've mastered the four movements, it makes planning your cross training pretty easy. You can plug-and-play different variations of each major movement into your exercise program and have a pretty good idea that you are getting a full workout. And avoiding major imbalances. (Although for fixing the BIGGEST major imbalance, see [this section](#).)

Muscle Hygiene

Yes. Muscle hygiene. As in: ***take care of those muscles and they'll take care of you.***



There is a lot of demand put upon your muscles when you're pairing roller derby practices, cross training, and whatever else life throws at you. That's partially by design. Your muscles won't get stronger without being commanded to do so by lifting big weights, running long distances, or jumping on boxes. However, all that heavy demand can take an additional toll if you aren't careful to check-in with your muscles every once in awhile and give them a little once over.

(It's a bit like brushing your teeth. You don't want to decide to brush your teeth one day and realize it's been a few weeks since you'd done it last. There's a whole level of build-up there that you don't want to deal with. It's better to just brush twice a day and keep up with it.)



1. Delayed Onset Muscle Soreness (DOMS)

A lot of research exists on delayed onset muscle soreness, but none of it specifically pinpoints what causes it or how to prevent it. DOMS is a soreness in the muscle after activity that can range from slight discomfort to severe and debilitating pain. The prevailing wisdom that the day AFTER tomorrow is the day that you will be most sore from an activity is true.

There are a few things you can do to combat delayed onset muscle soreness once it occurs:

Light exertion can help, but if you're experiencing a lot of soreness anything above light exertion (like a walk around the block or gentle yoga) can actually increase the risk of injury. When your muscles are sore, you may not move optimally through your ranges of motion and you might be relying heavily on compensatory muscles. All bad news. If your DOMS is severe enough to restrict or limit your movement, you want to stick with light exertion (if you have to exert yourself at all). And you definitely want to reschedule heavier cross training sessions.

REST. Of course. Use your newly found sense of listening to your body to know if you need to take additional time off. My first bout back this season I had some pretty severe muscle soreness (because I hadn't been practicing as a skater, just running practices as the coach) and couldn't get back into my cross training on Monday -- especially because it was a heavy squat day. So I rested an extra day, drank lots of water, foam rolled like crazy and was ready to go again on Tuesday.

NSAIDS. If the pain of DOMS gets in the way of your everyday life, you can take some aspirin or ibuprofen. Just make sure that you aren't taking it to mask the pain so you can go workout. Working out with sore muscles can affect your movement, which can lead to a greater chance of injury, which nobody wants.

Studies on ways to alleviate DOMS have also shown that massage can help (see below), but that stretching, hydrotherapy, and cryotherapy don't. That being said, if sitting in an ice bath seems to work for you, go ahead and do it.

2. Drink Water

Your muscles are about 79% water, so to keep them functioning properly, you need to stay well hydrated. You never know when you'll need to flex your biceps as you point someone to the bathroom. Aim for 1-2L of water per day and definitely drink more on days you workout or practice.

3. Foam Rolling (Self Myofascial Release)

I really love foam rolling. So, if I haven't mentioned it yet: **I LOVE FOAM ROLLING!!!** Without getting too deeply into the research, foam rolling and other forms of self myofascial release mimic massage. Which means that it can be effective for combating DOMS. However, foam



rolling is also a way to create length (i.e. stretch) a muscle without actually *stretching* the muscle. This is important because some research suggests that static stretching -- like reaching to touch your toes so that you can stretch your hamstrings -- can diminish the reaction time it takes for your muscles to contract. And that can have a detrimental impact on sports performance. I'm not telling you not to stretch if you love stretching, but I AM telling you that foam rolling is a great additional tool for muscle hygiene. Imagine being able to roll out all those knots without making a massage appointment.

Your muscles are one important part of the basic foundation of a functional body. (And a functional body is important to have if you want to, you know, function.) Take care of them. Oh, and consider seeing a chiropractor too...

Fixing “Skate Hard, Turn Left” Syndrome

“Skate Hard, Turn Left” Syndrome is real. You may have never heard of it before (because I kind of just pulled that name out of my ass) but I guarantee you that you are feeling the effects. And the longer you skate, the worse it will get.

What I call “SHTL” Syndrome is really a complicated combination of imbalances that occur within your body, sometimes structural and sometimes muscular, that are a result of the asymmetrical nature of the sport we play. This syndrome can be exacerbated by things like prior injuries -- for example, I've had 2 different and significant issues with my right knee which adds to it's already weaker status when compared to my left leg -- and general inactivity -- like I've been sitting at a computer all day typing this.

The underlying problem of SHTL Syndrome is glute imbalance. Your gluteal muscles are the primary extensor muscles of your hip (or they should be) which means that when you are pushing against the floor through your skate, you are using your glutes (or you should be). But

the glutes are surprisingly hard to activate. In our everyday lives (sans skating) we maximally contract most of our muscles at various times during the day. Think about when you sit up out of bed first thing in the morning. You just activated your abdominals. Think about when you pull open that sticky drawer in your kitchen. You just activated your biceps. There are a ton of everyday movements that activate most of our major muscles. But not the glutes.

The glutes are hard to engage. And even once they are engaged, they can quickly turn off due to any of the reasons listed above.

Like the world's biggest introvert at a party.



Like me at a party.

The fact of the matter is, even if you have the world's most tuned in glutes, every time you go to practice you're spending a huge portion of your time working on strengthening only one. (It's the left one. If you didn't know.) In the era of backwards blocking and bridge backs, skating hard and turning left is still what we do a majority of the time. Which means it's still what you do a majority of the time at practice.

Teams and leagues that try to counteract this by spending time practicing drills or scrimmaging in the non-derby direction (i.e. Skate Hard, Turn Right) are on the right track. But unless your team spends an equal amount of time in the non-derby direction -- which I doubt they do because you don't play in that direction -- then you're still creating a growing strength imbalance at every practice.

I can't tell you if you activate your glutes properly. I can't tell you if SHTL Syndrome has functionally changed the structural tilt of your pelvis (which happens, by the way). I can't tell you if you have other structural issues that need to be addressed in order to get your glutes fully activated. But what I can tell you is this: ***If you play roller derby, you have a gluteal strength imbalance.***

You probably always will and that's probably okay. The issue I see with most derby skaters -- the issue I saw with myself -- is that the imbalance gets so large that it starts to cause other problems.

What are some ways to address this issue in your cross training?

1. Let your weaker side dictate your workout sets/reps.

Whenever you're doing single leg movements or unilateral movements in your strength training or cross training program, start on your weaker side. Choose the weight that best fits your weaker side for the allotted number of reps and use that same weight on the strong side. If you're looking at rep ranges of bodyweight exercises, count the number of reps you can do on your weak side and only do that many on your strong side as well. You may find (like I did) that 6 pistol squats on your right side nearly kills you, but you could easily bang out 10 or more on your left side. DON'T DO IT! You're trying to close your strength gap, not increase it!

If you suffer from a severe imbalance, you might also consider doing half the reps on your strong side that you do on your weak side until the weaker side starts to catch up. This is one of the fastest ways to fix the imbalance, but can be hard to stick to. Because it feels strange. Like you're neglecting the leg that's been treating you right this whole time.

2. Schedule prehab exercises for your weaker side only.

Create a prehab program that you can tack on to a full workout or that you can complete on an



active rest day that focuses solely on your weak side glute. Remember that your strong side is getting stronger every time that you practice, so giving your weak side it's own special workout

time makes sense. (This is specifically an in-season suggestion. If you are not practicing, you shouldn't be neglecting your strong side.)

Isometric contractions are a great way to get that lazy glute turned on.

- Start from a standing position, balance on your strong leg, and kick your weak leg back by contracting the weak side glute. Make sure that your hips stay level and your lower back doesn't arch. Hold for 3 seconds, release, and repeat for a total of 10.
- Start from a seated position, press down with your weak leg into the chair by contracting your weak side glute. Make sure your hips stay level and your lower back doesn't arch. Hold for 3 seconds, release, and repeat for a total of 10.
- Lying face down, bend your weak side knee until it is at a 90 degree angle and the bottom of your foot is facing the ceiling. Kick your foot up toward the ceiling by contracting your weak side glute. Make sure your hips stay level and your lower back doesn't arch. Hold for 3 seconds, release, and repeat for a total of 10.

You may find that this feels useless at first. It's probably because your brain and your butt are disconnected. (I bet you never thought you'd read that sentence.) Part of the purpose of these isometric contractions is getting your muscle and mind connected so that the glute becomes more active all the time.

Once that connection has been made and the isometric contractions become easier, you can move onto dynamic movements for your weaker side.

- 2 sets of 10 reps, side-lying leg raises
- 2 sets of 10 reps, side-lying clamshells
- 2 sets of 10 reps, donkey kicks
- 2 sets of 10 reps, single-leg glute bridge

Again, keep your focus on the weak side. Your strong side is getting a lot of work at practice!

3. Load your bilateral movements carefully and keep your head in the game.

Love bilateral movement (squats, deadlifts, etc.)? You can still do them, but you want to make sure you're choosing loads that challenge your weaker side, but don't turn it off. You have to practice being present when you do this. Keep your brain concentrating on what your muscles are doing. If you can't feel your weak side glute contracting, then you need to rethink your weight selection.



4. Get thee to a Physical Therapist

I am not a Physical Therapist, so the recommendations above are generalized ways to help you unwind from all that skating hard and turning left. I highly recommend that you go get a

movement assessment and overall evaluation from a Physical Therapist. They will be able to tell you what kind of imbalance you have, what might be causing it, and give you a targeted program to fix it. PTs also have a large array of helpful tools that can add to the prehab of your weaker side (foam rollers, bands, manual manipulation) and give you some ideas of how to keep your sides equalized.

I had huge gluteal imbalances that my PT diagnosed the first time I showed up in her office. I also had a structural issue where one side of my pelvis was tilted further forward than the other (a surprisingly common side effect of SHTL Syndrome) which caused one hip bone to sit higher. A couple quick appointments and some soft tissue mobilization work, paired with my individualized plan diminished the strength imbalance and also got rid of some weird nagging issues I didn't realize were connected. This is why PTs are so important.

If you are really into glute imbalances and/or getting amazing, strong glutes you can read the inspiration for this section [here](#). It was written by Bret Contreras who is known as the “Glute Guy” for very good reason.

Common Compensations That Will Make Your Life Hell

Now that you've booked your appointment with your Physical Therapist (Right? Right?!?), it might help to have some idea of what he/she might discover when you get there -- aside from a raging case of “Skate Hard, Turn Left” Syndrome.

There are a lot of common complaints that come up when I talk to veteran skaters and there are a lot of common issues that I see when I work with newer skaters. But, there are 3 big ones that a little awareness and some tender loving care can help alleviate.

1 - Skating With Your Back

We've all felt it. That knife-like pain in our left side or lower back that comes out when we've been in the paceline too long. There's a legitimate reason for this; you're (hopefully) twisting your body consistently towards the left as you get your shoulders turned to the center and that causes a long term contraction through those muscles which can lead to fatigue and that stabbing sensation.

However, there is a way to minimize the amount of stabbing you feel: ***skate with your glutes, not your back.***

In positions where you are constantly hip hinging and driving through your feet (like skating), it's



relatively easy for your back musculature to get involved. In fact, your back *should* get involved, BUT...if your glutes aren't very good at being activated, your back muscles can end up producing most of the force for you. While having ripped back muscles is great and sexy, your glutes can produce much more power.

How do you fix it? Awareness.

The next time tiny knives stab you in your obliques and lower back, try contracting your glute muscles through the push. By the end of your push, when your skate lifts off the floor, your glute should be rock hard, maximally contracted, and (maybe) burning just a little bit. The imbalance in your back muscles that comes from this issue can be addressed in the same way that you're addressing SHTL Syndrome: isometric contractions for your weak (non-working side).

Quick disclaimer: If you go from using a combination of your quads and back to using your glutes to skate, be prepared for your speed to pick up. And make sure you have the control to deal with the increase in speed.



2 -Allowing Your Knees to Collapse In

This is, by far, the thing that makes me cringe the hardest. Unfortunately, it's a shockingly common problem that female roller derby skaters have. Scratch that, it's a shockingly common problem that female human beings have. And it's all related to wider hips. Sorry ladies!

← LOOK AT IT!! Every skater in this photo is suffering from this to some degree or another.

There are certainly some situations in roller derby where your knees need to come in (full plow stops come to mind), but when you're skating around, executing MOST skills, or just standing there, your knees shouldn't gravitate towards each other like planets.

Here are the four main reasons why this drives me absolutely bonkers:

1. It's indicative of your lazy glutes. Again.
2. It changes the distribution of weight in your skates and makes stability and balance extra difficult.
3. It affects the range of motion you can get out of your legs while you're moving around on the track.
4. It's a major red flag that you are highly susceptible to ACL injuries.

Having your knees collapse inward (otherwise known as knee valgus) can indicate that your



inner thigh muscles are overworking and your glutes are under working. The constant tightness and contraction in your inner thigh brings your knees in and your glutes don't have the strength to counterbalance it. Again, the suggestions in the SHTL Syndrome section can help!

When your knees collapse in, it tends to pronate your ankles, which means that your weight gets distributed more heavily over the inner part of your foot (the arch) and back toward the heel. Do you feel like your skates are constantly flying out from under you only to drop you on your ass? This might be your problem.

With your knees caved inward, it also locks up the movement of your legs. Think about it. If you stand up right now and point your knees inward, it limits how much and how quickly you can move your legs. If speed, lateral movement, or agility are a goal, this problem might be holding you back significantly.

Lastly, people that have the tendency toward knee valgus are much more likely to experience an ACL injury (caused by contact or noncontact situations) than someone that doesn't have this tendency.

How do you fix it? Awareness. And some focused exercises.

Next time you walk up the stairs or jump down from something, look at what your knees are doing. Video tape yourself skating and look at what your knees are doing. Perform some squats and look at what your knees are doing.

If you notice immediately that “YES!” your knees cave in, start adding some serious glute strengthening exercises to your program. Secondly, buy yourself a latex band (not a resistance band, but one that makes a loop, like a big rubber band -- [I recommend this one](#)) and place it above your knees while you perform squats. The pressure of the loop will remind you to focus on allowing your glutes to pull your legs out and keep your knees in line with your hips and ankles. Once that becomes a little bit more second nature to you, put on the loop, put on your skates, and stand in your derby form. Again, the loop will remind you to keep your knees out.

If you're not sure if your knees cave in, go back to the video. I've seen a lot of really strong skaters that don't present with knee valgus when they're skating. UNTIL they are just about to reach the pack. Or hit someone. Or (insert other skill here). Even if you're not sure, it won't hurt you to strengthen your glutes.

If your knees don't cave in, REJOICE! And continue to work on strong glutes and solid skating. If you fall into this camp, it's always a good idea to re-evaluate your plow stop and find ways to do it without letting your knees drift inside the line of your hips. Extra protection, just in case.



3- Pusher Foot Syndrome

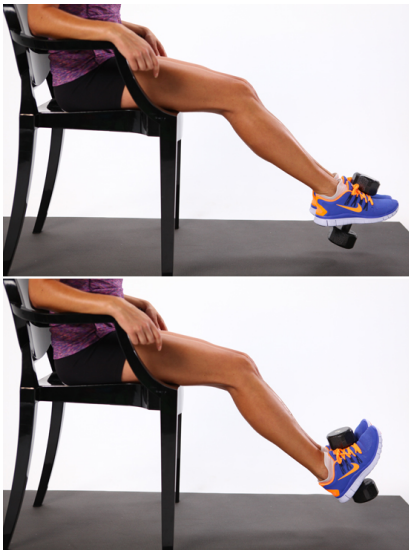


This is what I call the ubiquitous issue of calf tightness. Having tight calves is pretty common in the general population due to everything from desk jobs to high heels, but it's also prevalent among roller derby skaters. You see, when skating the majority of our ankle motion is plantarflexion (pointing the toes) because we are constantly pushing off with the balls of our feet and out through our toe stops.

So, in some respects, strong calves are necessary to a successful derby career. It's when we don't balance all that calf strengthening with stretching and other work that problems start to arise.

How do you fix it? Awareness, again. Focused exercise, again. Physical Therapy...?

1. USE EXERCISE TO STRENGTHEN THOSE SHINS!



Muscle groups that are overactive (in this case, the calves) are often opposed by muscles that aren't very strong. This is what allows the calves to tighten so much; the opposing muscle group (your shin muscles) is probably puny and weak. A great way to do shin work is by sitting in a chair with a dumbbell between your feet, legs extended. Focusing on the shin muscles, pull the dumbbell up towards your shin. You're trying to bring your toes (and the dumbbell) as close to your shin as possible. As you work the shin muscles, you'll likely feel a good, relaxing stretch through your calves.

3 sets of 8-10 reps every other day starting with a LIGHT weight is a good beginning regimen.

2. BE AWARE OF YOUR CALVES IN EVERYDAY LIFE.

One of the biggest and best ways you can fix chronically tight calves is to fix your everyday movement patterns. You can't never point your toes again, but there are likely things you do everyday that are contributing to your tight calf problem. Confession time: I, too, have tight calves. And they cause me to do things like tiptoe up staircases or walk on the balls of my feet when hiking up hills. When going up, in a situation where your body will normally cheat by shifting your weight forward on your toes, be mindful of taking full steps and letting your entire foot come down. Again, you'll feel a mini calf stretch.



3. MESSAGE THOSE SUCKERS!

You can choose to massage your calves in any way, shape, or form you like. But, if you feel like tight calves are the root of all your problems when you skate, you want to especially focus on massage as part of an off-skates warm-up before practices and bouts. Here's my favorite way to do it:



Self Myofascial Release: hurts so good!

Place a tennis ball (Hey, easily fits in your skate bag!) under your calf muscle in the biggest, meatiest part. Using your knee to control the movement of your lower leg, roll the calf along the ball -- side-to-side, up-and-down, back-and-forth. If you hit a particularly tender spot, hang out on it for 30-60 seconds while relaxing your leg and taking deep breaths. Alternately, you can hold the tennis ball in your hand and roll it along your calf that way; this version will be slightly less intense. You can do this EVERYDAY if you want to!

4. STRETCH!

I bet you were wondering when this would make an appearance, eh? Stretching is vitally important to relieving tight calves, but it's likely something that you already do. To maximize the effectiveness of your stretching, do it immediately after removing your skates at practice or a bout AND at the end of any other workout routine -- even if you didn't specifically target legs. Your calves should be warmed-up and pliable before you go into stretching them. Find a couple of good calf stretches you like and hold them for 60s per leg.

A FEW OF MY FAVORITES:



Towels make great "bands" to do this stretch. You can also stretch both calves at the same time, but this is preferred. This stretch can also be done lying on your back with the leg you plan to stretch straight up in the air.





*Keep your knee soft during this stretch, so that you feel it in your calf and not in the back of your knee.
This is another one that is best done on each side individually.*



TWO FOR ONE! Get your hip flexors and calves a little stretch here. To move the stretch into the calf of the upright leg, put your hands on the upper thigh and lean forward, hinging at the ankle. This will deepen the hip flexor stretch too, so bring your down knee closer to the front foot to ease up the intensity.

If you suffer from tight calves, chances are good that all of these fixes are needed to some degree to make a difference. Take time everyday to give your calves a little love and tenderness (and give your shin muscles a kick in their puny behind) and you should see mobility and flexibility improve. Over time, injuries related to the tightness of your calves (nagging knee or ankle twinges) should start to clear up too.

If you try one (or all) of these suggestions and feel like your flexibility and/or chronic calf pain isn't improving, GO SEE A PHYSICAL THERAPIST. You may find that your tight calves are actually caused by an extreme lack of ankle flexibility (which was my problem) and they need more intensive exercises or manual manipulation to loosen up.

All of these suggestions are just that, suggestions. If something isn't working for you, don't do it. Always be intelligent with what you choose to add to your program.



SECTION FOUR: The Accoutrements

Your Mindset

Do you remember that scene in *The Matrix* when Neo asks Morpheus if he'll be able to dodge bullets? Morpheus responds, "When you're ready, you won't have to."

And then it happens: Neo can just reach out and pluck bullets straight from the air.

That's kind of what embracing Intelligent Cross Training feels like.

That may seem like a weird analogy, but this isn't just about creating a cross training program. Actually, despite the title of this book, it's not about that at all. It's about learning to create a balance in your life so that roller derby (and cross training) are something that you look forward to rather than just something that you do. Or worse, something that burns you out.

Intelligent Cross Training is a mindset shift. You have to shift away from the extremes of cross training all the time or cross training never. You have to stop viewing yourself as less extreme or less dedicated or less strong or less worthy just because you only cross train 2-3 times a week.

And it takes practice.

My first two months of Intelligent Cross Training were hard. I kept expecting to get beat on the outside line or get winded during a paceline. I kept expecting that I would step on the scale one day to find that my weight had ballooned up to 200lbs again. I kept expecting not to see any improvement in actual strength from my workouts.

I wanted to just sneak in an extra HIIT routine (it wouldn't hurt anything, right?). Or spend 20 extra minutes on the treadmill after I'd lifted for an hour. I'd rationalize to myself that the Bikram Yoga class I went to wasn't *really* working out because it was yoga -- even though if I had collected my sweat it would have had the equivalent weight of a baby elephant.

All of that is normal. So expect it. You might need to suddenly take up knitting to make up for how restless you'll feel on the days you would typically be in the gym cross training or doing hill sprints at the local high school.

You'll need to be more mindful of how your body feels and more present in it, which (honestly) can be really difficult. Have you ever tried to just BE? It's a LOT harder than it sounds.

How do you practice mindfulness? How do you keep yourself from ignoring yourself and your body's cues about what you're doing?



Recognize the difference between cross training to reach your goal and cross training because you should.

Looking back on my insane cross training schedule now, I realize that 2-3 of my cross training days were specifically scheduled because I felt I *should* do them. Not because I thought they were helping me (although I must have thought that, right?). Not because I could pinpoint the specific ways in which I was reaching my goals through doing them. Not because I felt like my muscles were ready to work that day. I did them because I thought that if I didn't do them, I would lose whatever "edge" I might have out on the track. I did them despite the fact that my muscles were still sore and overworked from previous workouts. I did them to the detriment of my sleep schedule. Because I thought I should.

There are a few ways to accomplish this, but it all comes down to creating time each day to check-in with yourself and see how you're feeling.

- 1. Find something relaxing, that you like to do, that you can do everyday for 5-10 minutes.** Use this time to assess how your body is feeling. Are you extra tired? Are you still pretty sore? Are you raring to go? Where's your head at? I spend 5-10 minutes on my foam roller each morning working on my problem areas and mentally checking in. Maybe I had a huge deadlift workout scheduled for that day, but my body isn't feeling it. Okay. I'll reschedule. This takes some practice, but you can start now. The easier it becomes for you to listen to your body's cues, the better results you'll get with your cross training and the better you'll feel overall.
- 2. Give yourself 5 minutes.** If you are really feeling the itch to move, do it. Give yourself 5 minutes to workout (burpees, mountain climbers, hill sprints) and then you're done. It's not about denying your body if it wants to run, it's about learning to really listen to it instead of doing what you've always done. If your body is like, "YAAAASSSS!! More hill sprinting!!", then go for it. But, if you realize that it doesn't feel great or you can live without it, go inside, drink some tea, and learn how to knit (or relax or whatever).

If you've made it this far, and you're still reading this, chances are good that you legitimately are interested in learning how to cross train less while getting the same (or better) results. This mindfulness is a practice. Something that you probably haven't been working on up to this point. And that's okay! But remember, you're looking to try something different, so just try it! It might be difficult, but in the end it's worth it.

There will come a day when you decide that you need to sleep rather than cross train and it will be the best nap of your life.

Main Movement Exercises

This is a (by no means exhaustive) list of some of the exercises that fall under the 4 main movement categories that I talked about earlier. If you have no idea where to start, try mixing



and matching some exercises out of each category for each workout. As you collect data and adjust, you'll learn what you like, what your body likes, and ways to mix up what is included here. (And add your own variations, of course!)

SQUAT	HIP HINGE	PUSH	PULL
Back Squat Zercher Squat Front Squat Goblet Squat Single Leg Box Squat Pistol Squat Forward Lunge Reverse Lunge Walking Lunge Split Squat Curtsy Lunge Side Lunge Wide Leg Squat Cossack Squat Wall Sit	Deadlift Rack Pull Glute Bridge Hip Thrust Single Leg RDL Kettlebell Swing Windmill Good Morning	Bench Press Push up Strict Press Push Press Dip Floor Press Chest Press Corner Press	Pull Up Inverted Row Bent Over Dumbbell Rows Lat Pulldowns Landmine Row Barbell Row Cable Row Face Pull Resistance Band Pull-Apart

All of the exercises listed above are easy to find examples of on the internet. (Yay, YouTube!) But please, please, please make sure that you've had a professional assessment for each of the movements -- and have been given guidance on how to execute them properly -- BEFORE you start knocking out heavy loads or high volume.

Sample Workout Schedule

Intelligent Cross Training is sometimes easier said than done. When we talk about taking into account your weekly practices or special events or non-skating physical activity when planning your schedule, it may feel overwhelming. Like, really overwhelming. Like, what the hell does that look like?

First of all, don't get so hung up on doing everything "right". This is part of the mindset shift. There is not "right" or "wrong". There's just what works. And that will be different for you during different times in your life.

Your schedule will be whatever you decide it is and if the schedule you choose doesn't work then you'll adjust it. It's not a big deal. Making a mistake here is not the end of the world. And really, a mistake here is just giving you important data about what doesn't work for you. So it's not a mistake at all. Just a learning experience. Got it?

Second of all, I'm the type of person that needs examples. A good concrete example of something gives me a template that I can use and reuse to create my own version of whatever the example is for.



Here's what a regular week looks like for me:

MON	TUES	WED	THURS	FRI	SAT	SUN
Practice	Cross Training	Rest	Cross Training	Active Rest	Cross Training	Active Rest
	Practice			foam rolling		shoulder or ankle prehab

Why is it scheduled this way?

I've tried a lot of different iterations and this is what works best.

In accordance with #intelligentcrosstraining, I collected data on how I felt after practices, how I performed in the gym, and whether or not I improved in my goal areas. This schedule allows me to cross train the way I like with enough frequency that I still see growth in my strength without feeling exhausted. And still have time for my family, to complete all my school work, and to write this book.

Fully resting after doing a two-a-day keeps me from feeling exhausted.

Knowing that I get the best results from cross training 3x per week, I need to do a two-a-day once a week. (This is another option that I tested and collected data on before I decided that it would work for me. You might find that you absolutely CANNOT do two-a-days. You might find that once a week is too much, but every other week is okay. You might discover that once a month is all you can manage.) But, if I try to do something -- anything -- strenuous or physically active after those days, it will put me out of a commission for awhile. Sometimes I do active rest on the days following a two-a-day, like a walk through the neighborhood at a leisurely pace, but it's all dependent on how my body feels.

Foam rolling and prehab are what I use to keep my muscles healthy.

I can't afford weekly or monthly massages (I wish!), so I use foam rolling to keep everything as functional as possible. It's basically a poor man's massage you can do on yourself for the price of only a foam roller! It helps work out the soreness and knots I get from all my cross training and skating. It's also my version of meditative yoga -- the act of foam rolling has become a relaxing ritual for me.

I also have very specific issues (pinpointed by my Physical Therapist) that I make sure to focus on each week and try to improve. For me, that's light, full range of motion prehab on my



shoulders or ankles. If something else has been particularly problematic that week, I'll substitute that instead.

It's easy to adjust depending upon what crops up during the week.

I'm a front-loader. I like to get everything done up front, so that I can sit back with my feet up later. The good news about this tendency is that if something comes up early in the week, it makes it easy to adjust my schedule without missing out on too much (or any!) of my cross training and prehab. There's always an opportunity to move things around, or let things go, if I need to.

The number of practices that I have to make varies from week to week. My league's practice schedule alternates from having 2 team practices per week to having 3 (and then back again). On the weeks that I have 3 practices to make, my cross training schedule varies as well.

MON	TUES	WED	THURS	FRI	SAT	SUN
Practice	Active Rest foam rolling Practice	Cross Training Practice	Rest	Cross Training	Active Rest shoulder or ankle prehab	Cross Training OR Rest

I follow the same reasons as listed above on these weeks. However, it's really important that when Sunday rolls around I'm plugged into how my body is feeling. I can usually get away with cross training 3 times per week, but once every couple of months my body says "no". And I listen.

Listening to my body means that ***I don't follow this cross training schedule 100% of the time.***

There are a few quick rules that I follow (most of the time) when it comes to scheduling my cross training program over the long haul:

1. **On bout weeks, I use a taper program.** Which means that I only workout 2 times that week, instead of 3. Those 2 times are much lighter than my normal cross training sessions.
2. **I only cross train HARD for 2-3 months at a time.** Every 3rd or 4th month I do an entire taper month. Sometimes it's focused on stability, sometimes it focuses on



flexibility, sometimes it's just a place for me to mess around with a non-derby goal (like crow pose or pull ups).

3. **If it doesn't feel right, I don't do it.** This is a harder idea to grasp, but one of the best things I've noticed about Intelligent Cross Training is that it gives me more freedom to think, "You know what, this isn't working. How can I adjust it?"

- a. **EXAMPLE:** I worked with a skater that wanted to jam more this season and decided to start putting more cardio heavy finishers onto the end of her strength training days. At first, she tried to stick with the ideas I gave her (which worked great for me), but she didn't feel like she was mimicking the demands of a jam very well. So she adjusted. She'd do one of the exercises I recommended, then sprint around the outside of a basketball court. She'd repeat until she reached the end of a circuit, rest until she had recovered, and do another circuit. This worked well for her (she started to see improvement in her bout day jam performance) AND it was still intelligent. The finisher was still short and to the point. She wasn't allowing herself to get run down or vomit. She just made minor tweaks that made a big difference.

Once I started following these simple rules, everything just kind of clicked.

Sample Programming Days

When it comes time to sit down and consider what you want your program to look like, actually choosing what to do can leave you feeling overwhelmed. (Have you noticed the feeling a lot in these pages?) The desire you have at that moment, to lay down and ignore everything, is called Paralysis by Analysis.

So let's walk through it!

1. Decide how many groups of exercises that you want to do.

I usually recommend doing supersets (where you alternate two exercises) because it takes less time, but you can get more work done. So the question is: how many supersets do you want? Most supersets take anywhere from 8-12 minutes to complete, so if you have a time limitation, that will help you decide how many you want.

I like to stick with 3 or 4 because, honestly, by the time I get to the 5th superset I'm thinking, "Really? There's more?"

In the examples below, I used 3 supersets. You can get a good total body workout in 3 supersets, it only takes around 40 minutes, and (if you choose the correct exercise variation or resistance weight) it's a good workout. If you start with 3 and decide you want to do more, you can always add in more individual sets, have an additional superset or two written in as optional, or repeat the supersets.

2. Feed the big dogs first.

Start with the biggest muscle groups and the most complex movements and then lighten up the



workload as you go. These big muscle groups and complex movements will use more energy and stress more muscle, so doing them before you start getting tired is the best way to ensure that your form stays on point.

In the bodyweight programming example, you can see that I started with squats and inchworms (big muscles, a lot of muscles, complex movement), moved to curtsy lunge and slow mountain climbers (still complex movements, but less difficult and dynamic), and ended with Ts and planks (focused in on stabilizer muscles and small muscle groups -- the upper back).

You can also work on only big muscle groups and complex movements in each superset by making the second exercise in the superset a more focused and less complex movement. In the gym equipment programming example each superset contains a big lift -- squat, press, deadlift - and is paired with a support exercise that is either less dynamic, less complex, or both.

3. Choose your sets and reps.

Remember your goals and choose your sets and reps accordingly. I chose sets and reps in the hypertrophy and strength range because my goal is building my maximal strength base. Adjust your sets and reps according to your own goals by using the table in [this section](#).

4. Make sure you're comfortable and confident with the exercises.

Form is king. You need to be able to do the exercises correctly to get the most benefit (and stay safe). Some exercises are easy to figure out based on videos with good coaching cues and for some exercises you may need to get help from someone in person. Don't let your ego get in the way of asking for help. 5 back squats with proper form are greater than 25 back squats with poor form every time. And also less likely to leave you with a back injury.

5. Add a finisher that gets your heart rate up and mimics the movements in the main supersets.

You don't have to add a finisher (and, if I'm pressed for time, it's the first thing that I leave out), but pairing strength with cardio burns more calories. If you're into that. And, when you use the same movements, it squeezes a little extra juice out of and puts a little extra work into those muscles.

The moves in your finisher need to be pretty simple so that you can execute them as quickly as possible. Your finisher is for time, so you want to keep a stopwatch nearby as you do it.

You can also use finishers to focus on weaknesses or build up additional goal areas. If I'm working on agility, the finisher is a great place to focus on it by adding in agility specific exercises. If I want to focus on acceleration and deceleration, I can add a few of those exercises in as well. And, if I'm just looking to wear myself out, there's always the [deadmill](#).



The idea here is not to get paralyzed by all the options.

Remember that you're collecting data on everything you're going to do and you have to start somewhere. You can use the programming examples below and go from there. You can access videos of all the exercises by clicking on the exercise name link and entering the password "ICTbook".

Or build your own program using exercises that you like, that have worked in the past, or that you're excited to try out.

There isn't a wrong place to start. As Aerosmith so succinctly put it, "Intelligent Cross Training is a journey, not a destination."

That's totally what they said.



Bodyweight Sample Programming Day

EXERCISE	SETS x REPS	COMMENTS	REST
A1) Single Leg Box Squat	3x8 per leg	Core braced and ribs down	0s
		Keep form tight all the way down	
		Rest weight on box briefly	
A2) Inch Worm	3x6	Push back into your hips	30s
		Don't let your core sag	
		<i>SUPERSET w/ Single Leg Box Squat</i>	
B1) Curtsy Lunge & Kick	3x8 per leg	Ribs down	0s
		Stay tall	
		Tap in the middle, if needed	
B2) Slow Mountain Climbers	3x6 per side	Stomach tight throughout; no sagging	30s
		Hold knee up for 3s each	
		<i>SUPERSET w/ Curtsy Lunge & Kick</i>	
C1) I	3x8	Keep your ribs down	0s
		Squeeze your shoulder blades	
		Keep eyes on floor	
C2) Plank	3x6 per side	Brace your core; squeeze glutes	30s
		Hold for 5s each rep	
		<i>SUPERSET w/ T</i>	



FINISHER (optional)

Complete the following circuit 3 times (rest for 10s between each exercise):

- High Knees (20s)
- Divebombers (20s)
- Side-to-side Agility Hops (20s)
- Prisoner Squat (20s)

Rest longer at the bottom of each round, if needed.

Gym Equipment Sample Programming Day

EXERCISE	SETS x REPS	COMMENTS	REST
A1) Bulgarian Split Squat	3x8-10 per leg	Core braced and ribs down	0s
		Keep form tight all the way down	
		Stay Tall	
A2) Wide Leg Goblet Squat	3x6-8	Feet/toes at 45 degrees	30s
		Sink straight down between heels	
		<i>SUPERSET w/ Bulgarian SS</i>	
B1) Dumbbell Floor Press	3x8-10	Core braced	0s
		Wrists over elbows	
B2) Weight Plate Bent Over Row	3x6-8	Brace your core; back straight	30s
		Squeeze shoulder blades together	
		<i>SUPERSET w/ DB Floor Press</i>	
C1) Suitcase Deadlift	3x8-10	Chest up	0s
		Squeeze arms in close to body	



		Press hard through heels	
C2) Superperson (bodyweight)	3x6-8	Keep eyes on the ground	30s
		Squeeze through back and glutes	
		<i>SUPERSET w/ Suitcase Deadlift</i>	

FINISHER (optional)

Complete the following circuit 3 times as quickly as possible:

- Jump Squats (10)
- Two-Handed Kettlebell Swing (15)
- Mountain Climbers (8 each side)
- Dumbbell Reverse Fly (10)

Rest at the bottom of each round, if needed.



Conclusion

Embarking on Intelligent Cross Training if you've been stuck in the “No Pain, No Gain” mindset (or even the “Meh. No Thanks” mindset) can feel a little bit weird. Here are a few actual quotes from some skaters during their transition to Intelligent Cross Training:

"I like the program you gave me, but I'm only working out 3 times a week. Can I spend 20 or 30 minutes on the stationary bike afterwards?"

"It's pretty neat to see my strength increase so much, but I'm not really sore after workouts, so...shouldn't I be doing more?"

"I'm just going to go for a 10-mile hike this week. That won't count towards my workout, right?"

In all fairness, I dragged these skaters kicking and screaming into #intelligentcrosstraining and they didn't really know what they were getting into when they started. But it's a mindset shift and it takes some time to get settled into it. I'm happy to report that these skaters have embraced the mindset and actually have conversations with each other about whether or not they should cross train on bout weeks (and if so, how much).

Just like with any cross training, fitness, or nutrition program -- whether you've designed them yourself all along or you've purchased a great one -- it's easy to miss the forest for the trees. Like squeezing in your 6th day of cross training this week even though you're exhausted because that's what is written on your schedule. Or forcing yourself to bang out those extra 2 reps (with terrible form) because that's what your workout plan calls for. Or panicking when you eat 2 additional almonds to the snack listed in your menu plan.

Intelligent Cross Training is built on some big rocks. These rocks are a solid foundation of skills that apply to creating your own {successful!} cross training plan, but can also be used in other aspects of your life. If you're so inclined.

Experimentation

Starting an intelligently designed cross training plan requires you to do some #experimentation. And that's fucking scary. You know why? Because you are basically admitting that you are about to do something and you're not sure how it will turn out.

Experiments lead to failures. Frequently.



You have to be okay with that. No one ever learned anything from perfection, not really. You have to give yourself permission to struggle and you have to be willing to trust the process.



In my opinion, this is the hardest part. Embracing experimentation means embracing the inherent pitfalls of potential failure. And then accepting that through failure, you will learn and improve. You're not just learning to trust the process, you're learning to trust yourself.

Purposeful Minimum

Let's face it, most of us have intense and time-consuming lives outside of roller derby. Derby itself is a very intense and time-consuming hobby. And most of us want desperately to maintain some sort of

life/derby balance where we aren't experiencing additional stress because we also have to cross train an insane amount. (If you are one of the lucky few who get paid to play roller derby and can spend 6 days a week cross training and resting and thinking about it because it's become your job, more power to you!! And maybe email me and tell me how I can do that.)

So when you cross train, you have to be purposeful about it. Everything you do should be for a reason. This is really just a different way of saying that you need to make the most out of your time. Right?

I hate cleaning the house, but it's an awful necessity when you have two dogs and a little boy running around. (I actually loathe it. If cleaning the house were a person, I would have buried it's body in the ravine behind my house years ago.) I don't want to spend ANY TIME cleaning the house, so I clean the house for a minimum amount of time, but make it purposeful.

Ask yourself this when you're trying to determine how to do the #purposefulminimum: ***What's going to have the biggest impact in the least amount of time?***

Collect the Data

Don't forge blindly ahead.

Yes, you're trusting the process. But YOU are the most important part of this process. Collecting the data is your way of staying present in the process.



If you're not collecting data, how will you know what works?

Fail with Intent

This is kind of a weird one, I know. It's all in how you frame it.

Don't intend to fail. However, if you do fail, look at your failure with the intention to learn from it. In the realm of Intelligent Cross Training, this is usually a matter of not meeting your goals. You have the data and now is the time to analyze it and figure out where you missed the mark. Being intentional about what you are doing can be difficult, but it can also create learning opportunities.

Feedback Loop

This is where the adjustments are made. All of these prior steps need to become part of a feedback loop, so that you're constantly being present, purposeful, and intentional with what you are doing.

The ultimate goal of the feedback loop is to get you to pay attention.

How do you feel? Is this working for you? What can your body do today?

I really (REALLY) believe in Intelligent Cross Training and I'd love to hear how it's working for you. You can email me at hi@ironoctopusfitness.com, post pictures on Instagram with any of the above hashtags and tag me (@ironoctopusfitness), tweet at me (@ironoctopusfit), or share on my Facebook page (Iron Octopus Fitness).

If you loved this book, don't forget to tell your friends where they can buy themselves a copy (www.ironoctopusfitness.com).

If you're interested in getting a little bit more in-depth with Intelligent Cross Training (or just want to chat), you can [schedule a coaching call with me](#) and we can build a plan together!

Get kraken! Stay smart! Keep rolling!



About Octopus Prime

Emily (otherwise known as Octopus Prime) began her derby career innocently enough -- wandering into the local skating rink and asking when practice was. She was hooked after the 3rd practice -- practices 1 & 2 were off-skates, just standing around watching.

She's been skating and coaching roller derby since 2010. In that time she's co-founded her own league, co-coached a team that ended the year ranked at 88th on the WFTDA standings, played on a team that placed 2nd at USARS Championships, and had more injuries than you can count on one hand.



Prime has been teaching and coaching for over a decade in various settings and loves seeing people learn new things and embark on new adventures.

She is currently back in school getting her Exercise Science degree and Personal Training Certification and using her knowledge, personal experience, and introverted personality to bring people to the dark side of Intelligent Cross Training. There are no cookies, but there are a lot more naps.

Besides being widely passionate about #intelligencrosstraining and spreading the word of the #purposefulminimum, Prime likes lifting heavy things, reading, drinking copious amounts of tea, and silently making snarky comments inside her own head. She has one child, an Energizer Bunny of a son, and an awesome husband who makes her dinner when she needs it, sends her 3 word texts that make her laugh for days, and never attends any of her roller derby bouts. She thinks that everyone needs to act a little more like Spock on a day-to-day basis, loves cephalopods, and rarely wears pants that aren't stretchy.

