

Limping Into the New Millennium, Part I  
Twelve weeks of pain  
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In case you've just stumbled onto this site, put some ice on your head while I do a quick recap of what's happening here. Australian Wunder Coach Ian King has devised a 12-week leg program that's among the most unique — and the most effective — that I've ever experienced. The first six workouts were posted in previous issues:

- "Limping Into October" **Part I** and **Part II**
- "Limping Into November" **Part I** and **Part II**
- "Limping Into December" **Part I** and **Part II**

The first two parts of each workout were meant to be alternated for a period of three weeks, after which you'd progress to Parts I and II of the next three-week phase. Got it?

This particular workout is Part I of the fourth stage of the workout. Part II will follow next week. These two workouts will take us through weeks 9 to 12, which means that we're into the home stretch. We've only got three more weeks to go, so hang in there.

When I sat down to write this stage of the workout, I read over the previous section where I wrote about "bashing" the neural system. I know that the term "bashing" may not have been the best term. You see, training the *neural* system is different than training the "metabolic" (e.g. higher reps) system. The neural fatigue is much less obvious, and if you don't respect it and try to get the same "feel" as you get with the metabolic training, you may overtrain and jeopardize the entire training effect.

When you get fatigue in metabolic training, you can just keep going from workout to workout, if your single goal is to cause fatigue. Your work capacity will probably be *lower* as you experience overtraining effects, but because the focus is more on simply creating muscular fatigue, it may go unnoticed. With fatigue or overtraining from neural training, however, you really will notice it because you'll feel as if you're getting weaker. In fact, you'll notice immediately as it kind of hits you in the face!

If you're currently experiencing this, you need to ask yourself a few questions. Firstly, is it cumulative fatigue from working out week after week that's hurting me? And secondly, am I doing too much volume at this intensity for my system to cope with it?

If you decide that it's cumulative fatigue, you'll really need to back off because cumulative fatigue can be the hardest type of fatigue to overcome. You may need to take an entire week off. If you feel, however, that it's the latter reason, you may just need to reduce the training volume by doing fewer total reps or taking a few days off.

This really is an important thing to think about as we enter the final stage of four. If you've failed to respect the principle of recovery in the first three stages, you may well "bomb out" in this last stage, but I hope not!

In earlier workouts, I often gave you the option of doing one of two exercises, depending on your goals or physical limitations. In this stage, I'll also offer you options, but they concern *reps*, not exercises. If you aren't too advanced, you may not respond optimally to the very low-rep schemes that I offer in the workout, so I would prefer those individuals to take the "high road" or, in this case, the higher rep options. You'll notice that the difference between the high-rep and low-rep routines only amounts to one or two reps per exercise, but don't underestimate the power of one rep.

Editor's note: It seems somehow contradictory that an experienced lifter would benefit more greatly from doing lower reps, but it has to do with neural efficiency; something that generally develops only after years of training. Similarly, an experienced lifter will keep good technique when using the types of loads that only allow a set of two or three reps, while a less-experienced lifter might resort to bad technique, thus invalidating the entire set.

One rep is 20% of five reps — is this a significant number? My experience has taught me that there's no value in doing a number of reps that's lower than one's technical skill or neural firing ability. As a simple guideline, use a load that you can feel in total control of from a muscular control perspective. Simply having the balls or the stupidity to dive-bomb the eccentric phase and bounce back up like a kangaroo is of limited value to getting bigger and stronger. But it will make your chiropractor happy!

You may notice, too, that I use the shitty "beginner, intermediate, and advanced" definitions for the three-rep options presented below. I won't get drawn into providing definitions for each as I believe that you'll know which combination works for you. I will, however, offer a loose definition for the classification of *beginner*. If you've been lifting for less than two years, you are a beginner. Take the first option!

The method that we're going to use for this fourth and final phase is a type of wave loading based on the principal of post-tetanic facilitation. You'll end up doing "waves" of three sets, using progressively heavier weight with each set. The second and third waves, however, will also use progressively heavier loads than the first wave. Athletes will find that the hardest wave is the first one, and the succeeding ones are easier to perform.

To get the best results in this method takes some emotional control — I don't believe that the first wave should be performed at optimal load. But the second may be — can you wait that long? I've also found that if you overdose on the first wave, the second wave is performed at the same or lower loads, and this definitely is not the goal.

The following is an example of an intermediate-rep scheme:

1) Unresisted leg extensions

1-2x20



Use no load and a controlled speed up and down for 20 reps on a leg extension machine. I find isokinetic or semi-isokinetic machines to be superior for this purpose. The nature of their resistance seems "softer" on the joint and appropriate for warm-ups. However, any machine will work to some degree and, in the absence of leg extension devices, sitting on the edge of a prone bench and slowly extending/flexing the lower leg is effective.

2) Assisted squats

1x10



Hold onto a vertical frame (e.g. power rack). Squat down only partway on the first rep and use your arms to assist the lift by pulling up with them. On each subsequent rep, progressively increase the range while decreasing the use of your arms so that by the tenth rep or so, you're using the same range that you'll be using in your work sets. By this time, your arms will be doing very little during the lift.

### 3) Warm-up squats

1x10 at 20% of 1RM (the bar)

1x6 at 40% of 1RM

1x4 at 60% of 1RM

1x2 at 80% of 1RM

### 4) Wave 1 squats

1x4 at 100 kg

1x3 at 110 kg

1x2 at 120 kg

### 5) Wave 2 squats

1x4 at 105 kg

1x3 at 115 kg

1x2 at 125 kg

### 6) Eccentric or quarter squats

1x4 at 140 kg

### 7) As many squats as possible (ideally, between 10-20)

1 set at 75 kg

Remember, the above is just an example. I'll get a little bit more specific later on in the article. The weights used are provided only as an example and to show the progression from set to set and wave to wave.

Another significant difference with this program that I want to bring to your attention is the use of lower *volume* warm-up sets. Unlike the habits of most weight trainers, I recommend an extensive warm-up protocol. I find that it has the following benefits:

- Reduces wear on the joints by increasing joint temperature and lubrication.
- Increases neural awareness so that the body is firing properly for the first work set.
- The volume involved may cause some pre-fatigue which, in a hypertrophy phase, is probably desirable.
- If the reps in the last warm-up set are equal to or greater than the reps in the first work set, it contributes to your confidence that you can achieve the reps required in the first warm-up set. But in a neural training phase, I want to ensure that there's no residual fatigue from the warm-up sets as you go into the work sets. I lower the volume by reducing the number of reps performed in each warm-up set.

In order to best train the neural system, relatively long rest periods are essential. For those who like to sit around and recover, you'll enjoy this — I want four to ten minutes in between work sets. For those who are a little more hyperactive, I can understand your frustration, but tell someone who cares! The challenge with longer rest periods includes the following:

#### Getting lost in conversation

At least a minute before you're set to go again, focus on the task ahead. Use your visualizing technique and begin to raise your arousal level.

#### Getting too cold

At the risk of being too obvious, use a towel on the shoulders to maintain body temperature. I also like to cover the knees for the same reason.

#### Manipulating your level of arousal

Your arousal levels get very low after sitting around for a few minutes. You need to get them up to peak in time for the next set. How long this takes depends on your ability to control

your emotions (the use of ammonia smelling salts will be valuable here — check out the powerlifting supply catalogs).

If you're ever going to use knee wraps, belts, and even squat suits, now would be the time.

I'm not suggesting that you need to — unless you're a competitive lifter, in which case you'd better use them, if only to get used to them!

To give you a feel of how to periodize squat-assisting equipment, I've provided the following table as an example only (and more for a competitive lifter than anyone else):

Weeks 1-3

- No belt
- No knee wraps
- Knee sleeves
- No squat suit

Weeks 4-6

- Four-inch belt
- No knee wraps
- Knee sleeve
- No squat suit

Weeks 7-9

- Six-inch belt
- Loose knee wraps
- Squat suit halfway up

Week 10-12

- Six-inch belt, tight
- Knee wraps, tight
- Squat suit on fully

Now, finally, for the actual workout! We're going to be using an awful lot of variety in this one! First, you'll squat. Then, you'll do some squatting followed, of course, by some squats!



Low-bar, medium-stance, wide-grip squats

We're going to use the same stance as we did in the previous stage (shoulder-width, toes slightly pointed out). The main difference will be the positioning of the bar further down the back to what I call the *low-bar position*. This isn't necessarily the most comfortable position, but it will decrease the length from the hips to the bar. The shortening of this lever increases your load ability. You can also make your handgrip wider, if needed. All of this will result in more forward flexion (lean) of the trunk.



Use a lower speed than you might otherwise. Theoretically, the faster the eccentric, the greater the strength *potential*. But when you have to do what amounts to a 180-

degree turn with maximal loading, I advise a degree of control during the eccentric phase — no pause, and come straight back up.

There may be a temptation to throw technique focus out the window. Don't! I appreciate that there may be some degradation of the immaculate technique that you developed at lower loading, but fight to bring some — or ideally, most — of this selective muscle recruitment into the squat in this phase.



There's only one variation of the squat to consider in this phase, and that's doing either eccentric or quarter squats. Not everyone has the skills or facilities (e.g. spotters) to do eccentric loading. For those, I recommend going with the quarter squat, a limited-range squat which allows you to expose your muscles to supra-maximal loading — which will, no doubt, please Little and Sisco!

Use a load that's somewhere in the vicinity of 20-34% greater than what you'd use for a conventional, full-range set of the same number of reps. Do one set of three reps. If in doubt as to how far to go down, be conservative in the first rep and progress in depth in subsequent reps. If you go beyond your sticking point, you may not come back up, so be careful here. I recommend using a spotter and/or safety rack. Another alternative is the eccentric load hook that can be attached to the bar at the top of each rep and drop off when the bar is lowered. Now, for those who are going to do the eccentric squat, you really should be very experienced. You need excellent spotters, and I discourage the use of only two — one on each side — as they will kill you (lift unevenly). Go with at least three spotters and have the center spotter standing behind you call the shots (tell the side spotters when to come in) and take the most load. I can't stress enough the fact that you should be experienced (in both lifting and spotting) to do this squat.

The loading should be 20-40% greater than your 1RM, depending upon your skill and state of freshness. Take about four seconds to lower the weight. Remember that with an eccentric rep, if you can't lower the load under control at every joint angle, don't do it. Terminate. The spotters should know this so that they can get early warning signs of fatigue.

Here's a synopsis of the exercises outlined in this program:

#### Beginner-rep combination

Low-bar, medium-stance, medium-grip squats

Warm-up sets — 1x10 at 20%, 1x8 at 40%, 1x5 at 60%, 1x3 at 80%

Work sets — 1x5, 1x4, 1x3, 1x5, 1x4, 1x3, 1x10, 1x10-20

Speed — 201

After warm-ups, and using the percentages of 1RM indicated, perform two "waves." Do a set of five squats using the maximum amount of weight you can use for that given number of reps — but don't overdo it on the first wave! Rest four to ten minutes. Really. Then, increase the weight and do a set of four squats. After resting again for four to ten minutes, increase the weight and do a set of three reps.

Time to start the second wave. But this time, you should be able to use more weight on the first set than you did on the first set of the first wave.

Upon completing both waves, do one set of ten, followed by one set to failure, using about 75% of the weight that you used for your first work set.

### Intermediate-rep combination

Low-bar, medium-stance, medium-grip squats

Warm-up sets — 1x10 at 20%, 1x6 at 40%, 1x4 at 60%, 1x2 at 80%

Work sets — 1x4, 1x3, 1x2, 1x4, 1x3, 1x2, 1x4 quarter squat, 1x10-20

Speed — 201

After warm-ups, and using the percentages of 1RM indicated, perform two "waves." Do a set of four squats using the maximum amount of weight you can use for that given number of reps — but don't overdo it on the first wave! Rest four to ten minutes. Really. Then, increase the weight and do a set of three squats. After resting again for four to ten minutes, increase the weight and do a set of two reps.

Time to start the second wave. But this time, you should be able to use more weight on the first set than you did on the first set of the first wave.

Upon completing both waves, do one set of four quarter-squats, using a load that's about 20-40% heavier than your 1RM. Finish by doing a set to failure, using about 75% of the weight that you used for your first work set.

### Advanced-rep combination

Low-bar, medium-stance, medium-grip squats

Warm-up sets — 1x8 at 20%, 1x5 at 40%, 1x3 at 60%, 1x1 at 80%

Work sets — 1x3, 1x2, 1x1, 1x3, 1x2, 1x1, 1x3 eccentric or quarter squats, 1x20

Speed — 201

Note: The loads for the warm-up sets are expressed as a percentage of the first work-set load. After warm-ups, and using the percentages of 1RM indicated, perform two "waves." Do a set of three squats using the maximum amount of weight you can use for that given number of reps — but don't overdo it on the first wave! Rest four to ten minutes. Really. Then, increase the weight and do a set of two squats. After resting again for four to ten minutes, increase the weight and do a set of one rep.

Time to start the second wave. But this time, you should be able to use more weight on the first set than you did on the first set of the first wave.

Upon completing both waves, do one set of three quarter-squats, using a load that's about 20-40% heavier than your 1RM — or, do a set of eccentric squats using three spotters. Finish by doing a set to failure, using about 75% of the weight that you used for your first work set.

That's it for the quad-dominant part of this fourth and final phase. The hip-dominant workout will be posted next Friday.