

MRP

INJURY PREVENTION

INVADE SWEAT

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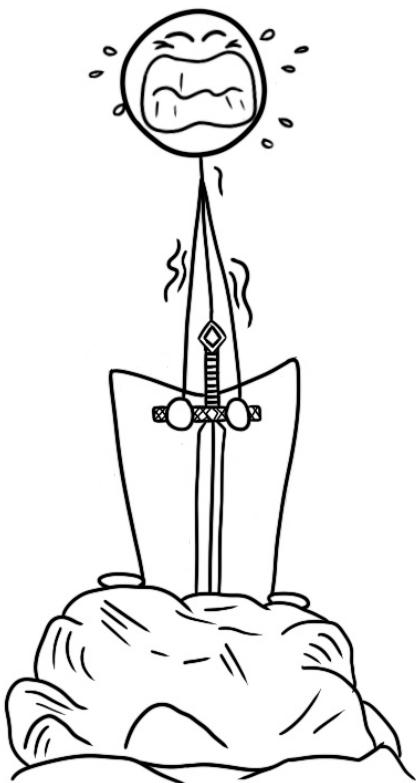
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1.

WHY MAKE THE EFFORT?

MAKE THE EFFORT

**MRP**

Training is fun, and hard, heavy training is even *more* fun, so why would anyone ever want to ruin the mood by being concerned about injury risk?

Injuries can happen to anyone, and *some* risk of injury is simply an inevitable part of playing the game.

Injury risk mitigation, however, can require thought, effort, and calculated restraint, which can be annoying and even interfere with your ability to perform at your best.

After all, choosing to implement such restraint versus simply training hard can actually cause less muscle and strength to be gained in the short term. So, if we're going to bother with trying to prevent injuries, there had better be a rather compelling case for that effort, right?

Fortunately, there is.

Here are seven basic reasons why it pays to put at least some effort into preventing injuries:

1. Getting injured hurts!

Pain stinks. Yes, some pain is inevitable when training hard, but avoiding unnecessary pain with minimal trade offs might be worthwhile.

2. Recovery interferes with your quality of life.

If you get seriously hurt, you might have trouble walking around, getting into and out of cars, and doing plenty of other basic tasks you need to do in order to live your life.

Injuries in the gym can make life outside of the gym cumbersome and frustrating for weeks, months, and even years, depending on the severity of the injury.

3. Hospital bills and medications cost you time, money, and work.

When you're injured, you might have to seek medical care, which costs some combination of time, money, and possibly even missed work or school, which costs you even more time and money on the back end.

4. Injuries result in time away from your most productive training.

When you're hurt, you probably won't be able to train as productively as possible, which can be both psychologically demoralizing and physically restrictive.

In fact, many injuries can prevent you from training muscles or movements in the injured area in a way that stimulates any growth or improvement *at all*. And, in some cases, you might not even be able to train effectively enough to *Maintain* your pre-injury ability.

This means you lose additional time even after your injury has healed in the attempt to reestablish how good you used to be before you're able to make new gains again.

Severe enough injuries may even preclude effective training of that area for weeks, months, years, or even for good.

5. Getting injured right before a competition is always demoralizing.

If you get hurt right before an important competition, it could take several months or even a year of training and “flush it right down the drain.”

Imagine having your plane tickets, hotel, and registration bought and paid for and *then* getting hurt. For most competitive athletes, this would be incredibly demoralizing and financially deleterious.

6. You never want permanent deformation of your physique and/or abilities.

If you hurt your spine badly enough, you may never be able to train your legs and lower back heavy again.

Sadly, it has happened to *many* people in the past.

If you tear a pec, for example, the torn pec, even if reattached and functionally returned to normal after surgery, will likely always look deformed, which is obviously to no advantage to anyone competing in the sport of physique.

Because of this, something about the chance of permanent loss of function or appearance should make even minimal considerations of injury prevention *very* appealing to most athletes who care about their futures.

7. Any injury increases injury risk in that area for the rest of your career.

Injuries would not be such a bad thing if you got hurt once, healed properly, and were never subjected to reinjuring that same area in the future.

However, in many cases, having hurt an area once makes it more likely that you’ll hurt the same area again in the future. This seems to apply especially to previously torn muscles, as the scar tissue that heals the area might not be as strong and integrated as the muscle it replaced.

Thus, if you get hurt once in an area, you’re potentially setting yourself up for future increased risk in that same area.

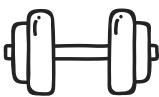
What’s the best way to avoid that? You guessed it! Minimize your chances of getting hurt to begin with.

With all that being said, even if you're willing to pay the price of a higher injury risk in order to push faster progress, the biggest downside of taking on that risk is that injuries hurt progress itself the most.

At the end of the day, that may be the most compelling reason to try to minimize the chances of getting hurt.

Why?

Because it makes you the *opposite* of better and interferes with your journey to become the best version of yourself you can be.



So, instead of training hard and simply "letting the chips fall where they may," you're probably best served by training hard while still taking all of the logical precautions against injury.

As a bit of a final note, you'd be wise to avoid needlessly elevating injury risk so that you can get as good at your chosen sport or hobby as you can. Although this specific resource may appeal mostly to bodybuilding and physique enthusiasts, CrossFitters and other skill sport enthusiasts may find injuries particularly detrimental as well in that they detract from any momentum built in their development of crucial skills to excel in their craft.

And all of that begins with proper technique, which is our next point of consideration.

2.

7 FUNDAMENTALS OF SAFE LIFTING TECHNIQUE

In some sense, what is considered a safe lifting technique is subjective and individualized.

Safe is, of course, a relative term, and most techniques are somewhere between completely safe and completely reckless yet rarely at either of those extremes themselves.

Moreover, what may be safe for a person with no history of knee injuries might be very risky for someone with an extensive knee injury history, so there is certainly much to be said for nuancing our interpretations of safe lifting technique from situation to situation.

Lastly, there are definitely times when techniques that are usually safe in one context are either needless or unsafe in another.

However, for most people in most cases, a few basic technique fundamentals in the gym can go a long way toward reducing injury risk when they are appropriately applied.

If you practice them, ingrain them, and remain consistent with them over time, your injury risk will be notably and impactfully lower than if you were to behave otherwise.

Now, let's look at the seven technique fundamentals for injury risk reduction:

1. DOING FULL AND STANDARDIZED ROM

Doing the full range of motion (ROM) of a lift reduces the external load you have to use in order to get the same stimulus.



For example, if you squat halfway down for sets of 10, you might need 400 pounds for a similar muscle growth stimulus that you'd get with only 250 pounds squatted all the way down for the same 10 reps.

Because of the lightened external load, any instabilities that throw you off of your best path can be corrected without having to fight the momentum of much heavier weight, which reduces injury risk.

As a bonus, using a full and standardized range of motion also reduces the long term wear and tear of heavy lifting.

2. USING CONTROLLED ECCENTRICS

Some of the highest forces seen in lifting come from the amortization phase, which is the part of the lift when the descent (eccentric) flips quickly into the ascent (concentric), such as when you touch the bar to your chest in a bench press and come back up.

With any given load, the faster the amortization phase is, the higher the peak forces and chances for injury will be.

In addition, if you rush the eccentric portion of the movement, you actually miss out on some of the muscle growth gains that can come from controlling it. Because of this, it's best to control the eccentric by reducing its speed substantially from what gravity would do without opposition so that you can both reduce the risk of injury and get more gains.

For very heavy lifts in anatomically compromising positions such as heavy bench presses or weighted pull ups, taking a quick pause at the bottom of each rep might be helpful as well.



While you don't have to use these practices, I will say this on a personal note: I've both hurt myself *many* times and seen other people hurt many times, but I've never, not once, seen anyone get hurt during a slowly controlled eccentric with a pause with any amount of weight above the 5RM range.

In other words, if you control your eccentrics and pause on most of your lifts, there is a good chance your injury risk will decline substantially.

3. CONTROLLING MOMENTUM AT MOVEMENT END-RANGES

A big factor in promoting lifting safety is to be in control of the lifting implement at all times.

If you lose control and let gravity and momentum take over, reasserting that control may be a bit risky.



For example, if you do shoulder presses by throwing the bar up and over your head without slowing down much at the end, you're likely at a higher chance of elbow or shoulder injury if the bar leaves your hands for a bit and comes back down at an awkward angle.

Thus, it likely pays to stay in control of the weight at all times, even if you're feeling very fired up, by making sure to slow the weight down at the top of the movement so as to minimize the snap and re-acceptance of the weight.

You can think of this advice as the opposite of "throwing weight around."

4. NOT CHEATING

Cheating involves the use of non-targeted muscles to generate extra momentum to complete a repetition.

Extra momentum is itself an increased injury risk, but cheating also risks injury in two other ways.

Firstly, by definition it allows/requires you to use more weight than usual, and the higher the load, the more likely the chance of injury.

Secondly, cheating can rely on other muscles to push the movement beyond the capabilities of the target muscles, which puts the target muscles at higher risk for injury.



For example, if you “cheat curl” a weight up that you could not have curled without cheating, on the way back down, you’ll probably try to control the weight at least to some degree. Now, that control *might* come from the biceps, but all of a sudden the biceps are being asked to control a weight that they were not strong enough to lift in the first place.

As you might imagine, this is not ideal when the goal is sustainable, injury-free lifting technique.

5. AVOIDING REPEATEDLY PAINFUL POSITIONS

If you are experiencing sharp, localized pain, consider rethinking the exercise, technique, loading, or other variables. This is especially applicable if the pain increases as you do more reps and sets or across training sessions.



For example, if your pec tendon on the right side begins to feel agitated on the eleventh rep of a 12-rep rep set, it's probably fine to finish the set and complete all 12 reps. After a bit of stretching in between sets and a few slow, controlled reps on the next set to ensure nothing is becoming increasingly uncomfortable, you'll probably never feel it again and not need to make any adjustments.

Most incidents of pain in the gym are either desired (such as the metabolite burn sensation in fatigued muscles that actually contributes to growth, for example) or just weird one-off instances that aren't indicative of any actual injury.

However, if on your second set the pain returns on rep five and gets progressively worse with each following rep, it's probably wisest to stop and reassess.

Similarly, if the pain was tolerable in your first week of training but has advanced to extreme levels of discomfort by your third week of training, definitely don't just keep going! Stop, change exercises, reduce the load, or even avoid training that area for a few days. If that doesn't start to make things a bit better, consider seeing a medical professional.

6. AVOIDING UNSTABLE MOVES WITH HEAVY LOADS

Sometimes, the combination of instability and heavy loading can be a formula for injury.



For example, if you're squatting onto your toes (like a sissy squat variation), standing on a BOSU ball under heavy loads, or even doing less than your 8RM on dumbbell presses, you're introducing instability into heavy training, and even the smallest deviation can lead to an injury.

Obviously, sets of 15 in the sissy squat are profoundly safe, and sets of 10 in the dumbbell press are as well, but if you choose to go very heavy, especially closer to sets of five, stable bars, machines, and foot placements are likely the way to go.

7. BEING AWARE OF GENERALLY QUESTIONABLE POSITIONS

The human body is incredibly resilient and adaptable, but some of our joints and structures are not designed for heavier loading in certain positions.

This may include deadlifting very heavy with a very rounded back, very dynamic, high-load shoulder joint moves (like the snatch lift in weightlifting), or any movement that involves twisting and turning under heavy loads.

That being said, these are not necessarily dangerous movements in an absolute sense. Practicing them with lighter loads on up makes them substantially safer than if you just tried them out randomly with no practice.

But, they are likely at least marginally more risky than their alternatives, which in this case would be deadlifting with a flat back, non-explosive shoulder movements, and non-twisting lifts.

This is just something to keep in mind as you navigate your own personal risk tolerances in the gym.

Are deviations from these safety fundamentals always unwise? Not at all.

However, if you do make deviations, they had better be well-reasoned ones, such as, “I don’t have any discomfort in this movement and I’ve slowly built up the loading over weeks,” and not immature, ego-driven ones like, “Woo! Let’s get this weight! YOLO!”

With this basic understanding of how to avoid generally questionable positions, you’ll be set up well to minimize your risk of injury in the weight room.

3.

WARMING UP

As you may have guessed, performing a proper warm up routine before any training session is an excellent way to help mitigate injury risk.

But, other than the unconvincing mumblings of your 7th grade gym class teacher, why *do* you need to warm up?

First, warming up allows you to physically warm up the tissues involved in the upcoming exercises. Warm tissues are literally less likely to snap than tissues that are physically colder.

Additionally, warming up allows you to practice the first few exercises in your training program. Not only does this potentiate improved performance on the working sets to come, but it also gives you the kind of practice with lighter loads that increases the chances of a proper, stable technique once you progress toward heavier loads. Having good and stable technique at heavier loads drastically reduces your injury risk.

In summary, warming up improves your upcoming performance *and* decreases injury risk, which makes it a no-brainer for any serious or recreational lifter.

HOW TO WARM UP IN 3 SIMPLE STEPS

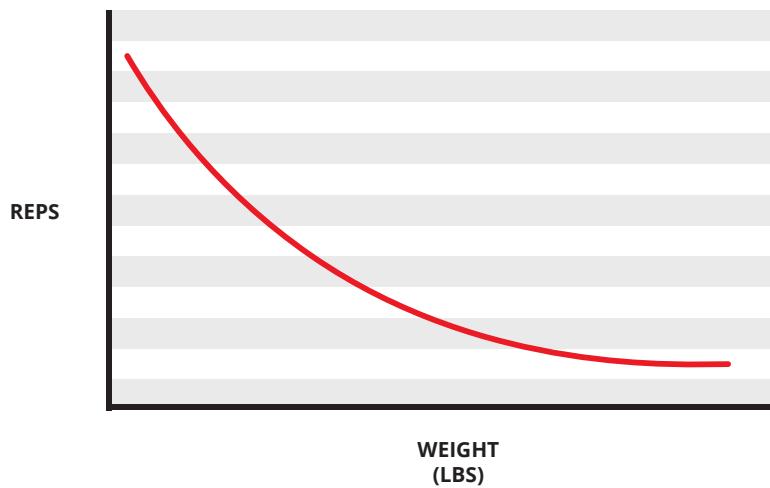
STEP 1: Start with higher reps and light weight after a general cardio warm up.

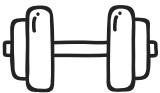
- A general cardio warm up is optional, which might be 10-15 minutes of something like incline walking or the Elliptical machine at a heart rate of 110-130 bpm.
- Once your general cardio warm up is complete, perform a set of 10-15 reps with your 40-50RM or so on the exercise you're going to be doing first.
- For all warm up sets after this, rest between 30 seconds and one minute between each set.

STEP 2: Work up incrementally as you increase the load and reduce the reps.

From here, we've given you specific recommendations for incremental increases in weights based on how much weight you will be using for your working sets.

WARM-UP PROGRESSIONS





0-100 lbs: Perform at least two warm ups total. For example, do 45 pounds for a set of 10, then 75 pounds for a set of 5, then go to 95 pounds for your first working set

100-300 lbs: Perform at least 3 warm ups total. For example, do 45 pounds for a set of 15, 135 pounds for a set of 10, 225 pounds for a set of 5, then go to 275 pounds for your first working set.

300-500 lbs: Perform at least 4 warm ups total. For example, do 45 pounds for a set of 15, 135 pounds for a set of 10, 225 pounds for a set of 8, 315 pounds for a set of 5, 405 pounds for a set of 3, then go to 425 pounds for your first working set.

500 lbs+: Perform as many warm up sets as needed following these same principles.

STEP 3: Do an optional “potentiation set” with your working weight.

Practically speaking, this load can be either your working weight or even 10% over it. Perform 1-4 repetitions, rest, and then begin your working sets.

Doing a potentiation set can fire up your nervous system even more *and* get you practice with very heavy loads so you’re not shocked by them during a working set to the extent that you risk unstable technique. Potentiation sets can be used in any context, but are especially helpful in heavier lifting.

Once you’ve accounted for all three of these steps, you’re ready to do your first working set.

And to be clear, this is for the first exercise in a given workout session. For exercises that come second, third, and so on, fewer warm up sets may be required as you will both be generally warmer all around at this point and have probably warmed up the muscles you’re about to use in prior exercises.

If the muscles you’re going to use in later exercise are *not* the same ones you used in earlier exercises, consider implementing a full warm up for them as well, or at the very least a 10 rep warm up set and one 1-4 rep potentiation set before beginning your working sets.

ADDRESSING THE BOREDOM OF WARMING UP

Warming up is extremely important, but let's be real: It can seem very boring at times!

Because of this, many people will often skip or rush their warmups. And unfortunately, skipping or rushing your warm ups is likely a major contributor to increased injury risk. If you rush or skip *anything* at the gym, the warm up may be the worst choice.

Rushing warm ups is an especially bad idea if you're in a mental rush, under stress, if you're at a new gym with new equipment, training while traveling abroad, functioning on limited sleep, or under high fatigue. Those are the times in which you would benefit most by *extending* your warmup, not curtailing it.



The best advice here is this: don't skip your warm ups, and on the days you feel like doing them less, do them more!

As difficult as that advice may be to implement in practice, it's undoubtedly one of the hallmark characteristics of most mature, seasoned, and injury-free lifters.

4.

LOAD MANAGEMENT

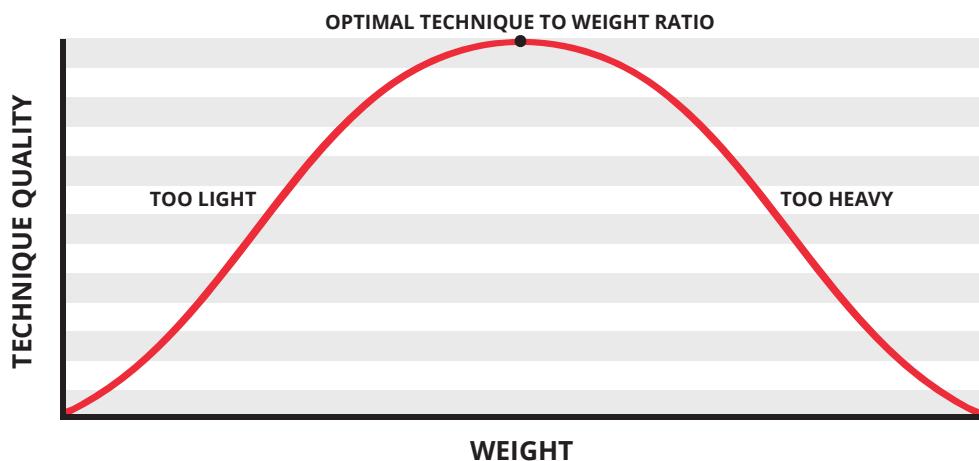
Now you are warmed up and ready to go.

Let's address the question of how heavy you should be lifting if injury risk is something you're keeping an eye on.

In the simplest of phrasing, you should *never* lift heavier than is needed to get the job done.

How heavy is that? Well, that depends on the job!

LOAD SELECTION FOR OPTIMAL TECHNIQUE



Good technique needs to be replicable from rep to rep, set to set, and session to session so that you can track progress, plan weight/rep increases, be mindful of fatigue, and stay safe from injury.

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If you're training for muscle growth, sets of 5-30 reps are best, so that rules out most instances of going heavier than your 5RM if size is the goal.

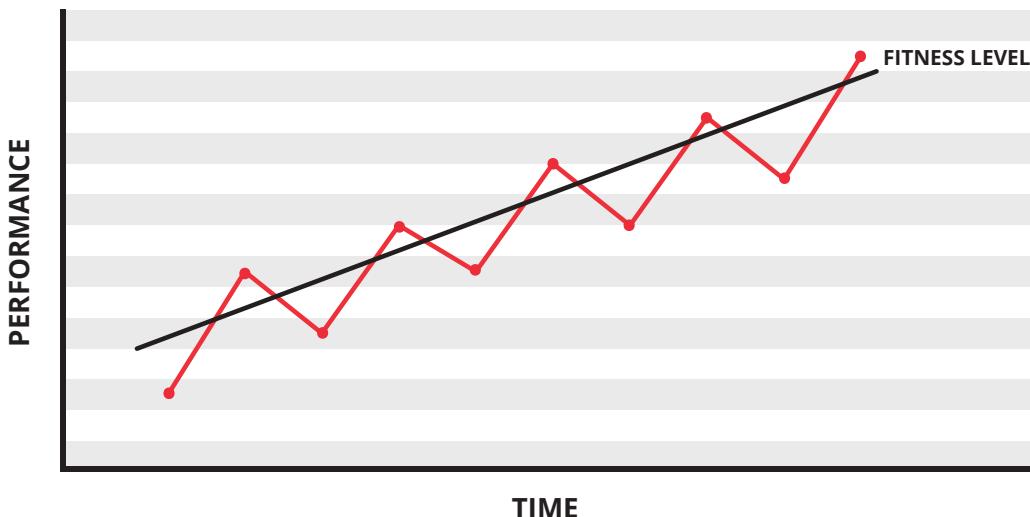
If you're looking to improve your overall strength, sets of 3-6 reps are recommended. But again, no maxing out is needed.

If you're looking to peak to show off your top-end strength, then sets of 1-3 reps are fine and, in fact, very beneficial. But if you're avoiding heavy singles out of fear, you can probably relax and just be safe when you need to do them. If you're training for size or basic strength and you're doing singles all the time, you're taking needless injury risks and arguably wasting your time performing sets that could be done for more reps at lighter loads, leading to greater gains.

PROGRESSING YOUR LOAD

You don't get bigger and stronger by lifting the same weights repeatedly, so you'll have to increase load over time.

PROGRESSIVE OVERLOAD FOR MANAGING INJURY RISK



At every timescale, increasing load on the slower end of things will reduce your injury risk. If you can do an extra warm up set and thus increase weights from one warmup set to the other a bit more smoothly, your injury risk will inevitably decline.

If you can add 5 pounds to the bar every week during your accumulation training in a mesocycle, you'll be a bit safer than if you tried to add 10 pounds or 15 pounds every week.

If you jump by 25 pounds in load from the end of your 5-10 rep range hypertrophy phase to the beginning of your 3-6 rep range strength phase, you'll be a bit safer than if you went up by 50 pounds.

Does this mean that the slower you warm up, the better? No way!

Too many warm ups take too much time and can elicit diminishing returns or even negative returns if you get so tired doing warm ups that your working sets go poorly.

The key is to understand the dynamics at play and that, if you're feeling a bit tired or achy or unstable, warming up slower or adding 10 pounds to the bar versus 15 pounds from last week might be something to think about.

Strength and size take years to increase, so there's no universe in which you won't get as strong as you could have because you chose to add 5 pounds to the bar instead of 10 pounds. That is very important to remember in the context of keeping your poise and adding weight modestly and intelligently versus recklessly over time.

In the end, it's probably wise to almost never "just throw some weight on the bar" without it being justified for your specific goals, without having worked up to it gradually over weeks and months, and without having performed a proper warm up.

5.

VOLUME MANAGEMENT

In study after study, two of some of the biggest predictors of injury risk have shown to be, first, the rapid escalation of volume from a low to a very high level, and second, consistent, unabated periods of unsustainably high volumes of training.

With that insight, let's see how you can make sure your training program keeps you on the low end of injury risk with three simple rules:

3 SIMPLE RULES FOR VOLUME MANAGEMENT

RULE 1: When choosing starting volumes, start very low.

Whatever gives you a small pump for hypertrophy or a bit of a challenge for strength work is a good place to start in a program.



For example, this means that in week one of your plan, 2-3 sets per muscle or movement type per session is a good start in most cases. No, it won't annihilate you, but that's the whole point.

Doing too much volume upfront risks injury, and since gains are made over weeks of slow and steady progression anyway, doing too much upfront really doesn't have any notable benefit.

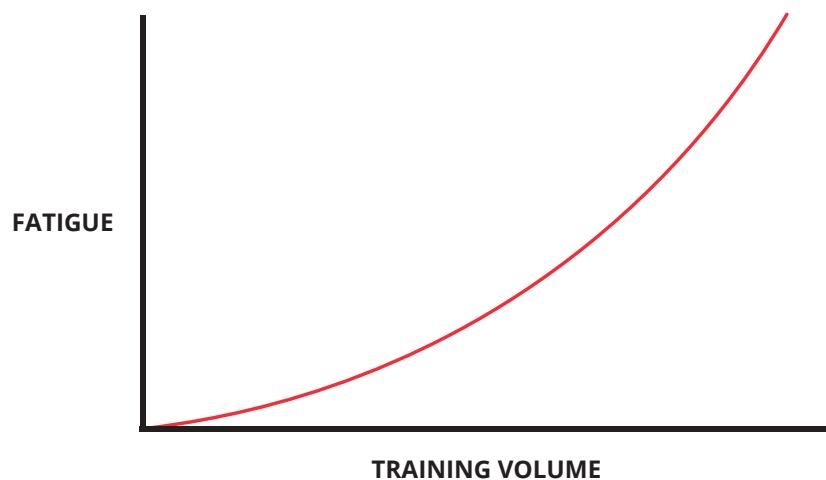
It's just something people do because they "feel fresh" and are excited to make gains.

Of course, it's tempting to do a ton of volume right away, but because your body is so sensitive to training at the beginning of a program anyway, doing a lot of volume right away is needless at best and risky at worst.

Remember that your **minimum effective volume (MEV)** is often *much* lower than you might think, so going easy at first is a very good idea in most cases.

RELATIONSHIP BETWEEN VOLUME AND FATIGUE

Fatigue increases exponentially with training volume



RULE 2: When increasing volume, do so slowly.

If you're recovering well and feeling challenged far below your abilities, add only 1-2 sets per muscle or movement per session. Often the addition of just one set per muscle or movement per session can do the trick.

If you start adding three or more sets to each workout every single week, the rapid escalation in volume will accumulate so much fatigue that your risk for injury will skyrocket.

RULE 3: Never exceed your maximum recoverable volume (MRV) for more than a week.

Training beyond your ability to recover sounds exactly like it reads: nonsensical.

To be fair, it is possible that as much as a week of training beyond your **maximum recoverable volume (MRV)** can have delayed benefits the week after. But, If you're fatigued so much that your strength plateaus or even decreases for a week straight, reduce the volume significantly by beginning a recovery phase of some kind, usually a deload.

Training over your MRV for longer than a week at most is likely to result not only in highly increased injury risks but also in much less, zero, or even *negative* muscle growth (otherwise known as muscle loss).

Training hard until you can't train harder is admirable and will result in you getting your best gains, but you don't get *any* bonus points for pushing it beyond your recovery abilities for any meaningful amount of time.

Your best bet in all of this is to have a plan, and it's probably unwise for that "plan" to be something to the tune of, "Just grind it, bro! Set after set. Get these gains!"

Volume levels and progressions need to be justified by your goals instead of your emotions, your in-session music, or the fact that your pre-workout just kicked in. Volume should be added slowly with high volumes requiring a gradual lead-in over weeks, not days.

Lastly, you should be able to measure and roughly estimate your MRV, so that you're not accidentally training beyond your own abilities to recover while needlessly spinning your wheels and exposing yourself to higher injury risks.

Never "just grind" set after set into oblivion.

6.

DETECTING AND REDUCING FATIGUE

As you train hard for weeks in succession, predictable things happen to your body.

Your muscles get small tears in them, and not all of those tears heal up week-on-week.

Your connective tissues like your tendons also get the same types of small tears and, because of a much more limited blood supply than your muscles have access to, heal even *more* slowly and sum up even *more* damage as the weeks go by.

Your nervous system begins to fatigue and leads you to become less coordinated. This lowered coordination ability usually occurs days or weeks before your fatigue becomes high enough to reduce your strength output ability.

Thus, by the time you've hit your MRV and your strength has fallen, you're already less coordinated than usual and more prone to a technique misstep or blunder that could injure you.

Because fatigue is cumulative, all of these effects add up week after week, which can eventually reduce and even eliminate your gains if unchecked.

It's not rocket science to infer that, if your muscles and tendons are more frayed than ever, an increased chance of technical error from the lower levels of coordination can lead to exposing weak tissue to lots of loading and thus increase the injury risk.

In order to be able to prevent fatigue from climbing too high, you need reliable methods for detecting and estimating your varying states of fatigue.

Once you've incorporated those methods, it's important to hold yourself accountable for responding to the results of those methods once you find that your fatigue is, in fact, too high.

There are at least five telltale signs that your fatigue is high enough to require a major reduction back to baseline.

No single one of the five by itself indicates that fatigue is too high, but the more of these you experience at the same time, the higher the likelihood of excessive fatigue and the more reason to begin measures to bring it down as soon as possible.

5 SIGNS OF UNSUSTAINABLY HIGH FATIGUE

SIGN 1: Reduced desire to train

SIGN 2: Soreness that never really fully heals between workouts for the same muscle group each week

SIGN 3: Feelings of anxiety and being “overwhelmed” by training and life, especially if you’re looking at workouts before doing them and thinking, “I’m never going to be able to do this,” to a greater degree than usual.

SIGN 4: Appetite and sleep disruption, which usually present themselves as a reduced appetite and a tendency to have more restless sleep from which you wake too early in the morning and are unable to fall back asleep after.

SIGN 5: A stall and decline in performance, usually one that affects all exercises for a muscle group or even all exercises for the entire body. This is especially relevant if such performance reduction lasts for a whole week and isn’t just a one-off bad workout.

SIGNS OF UNSUSTAINABLY HIGH FATIGUE

- ✓ LOW DESIRE TO TRAIN
- ✓ STUBBORN SORENESS
- ✓ ANXIOUS, OVERWHELMED, CATASTROPHIC MINDSET
- ✓ APPETITE AND SLEEP DISRUPTION
- ✓ A STALL AND DECLINE IN PERFORMANCE



If you're experiencing several of the above signs, it's probably time to reduce your fatigue.

If just one of your muscles is underperforming compared to baseline for a week straight but your other muscles are fine *and* you're not experiencing any symptoms of systemic fatigue such as disrupted appetite and sleep, a **recovery session** (or several) may be in order.

A recovery session is essentially just your normal session for that muscle group performed at about half of the sets, load, and maybe even reps as usual.

This very easy training lets you do just enough work to actively help the muscle recover (kind of how physical therapy supplements the recovery of injured muscles) while not doing so much work as to prevent fatigue from dissipating.

If the muscle in question is *really* fatigued, you can take half a week of recovery, which just replaces a whole half of a week of regular workouts for a muscle or movement with recovery workouts to really drop some serious fatigue.

IMPLEMENTING DELOAD PROTOCOLS

If your high-fatigue state includes definite systemic signs like appetite and sleep disruptions, desire to train reductions and anxiety increases, you need to drop way more fatigue than a single recovery session or half-week can help with. In this case, you need an entire week of recovery sessions, which is known as a **deload week**.

There are many valid ways to deload depending on the situation, but a great deload formula is to perform a recovery half-week in the first part of a deload and then take the rest of the week completely off of training.

Lastly, once or twice per year, especially if you're training very hard at a very high level, a deload might not be enough to bring down all of the residual fatigue accumulated over months of hard training.

In such cases, an **active rest phase** of about two weeks may be warranted.

Such a phase can consist of a deload week followed by a week completely away from the gym in which you do lots of eating, resting, and relaxing, with *any* physical activity being leisurely in nature.

Nothing in this world zaps cumulative fatigue like an active rest phase. If you're super fatigued and don't think a mere week of deloading will cut it, try an active rest phase, but remember to come back after with *super* low volumes so that you can keep injury risk low for your entire training sequence.

7.

WHEN PAIN MEANS STOP

Pain in the gym can mean one of generally three things.

First, it can be mostly or wholly neurogenic in nature. Neurogenic pain can occur for lots of reasons, but its core feature is that it's just a misfiring of the nervous system *as if* injury had occurred even though nothing is actually injured.



For example, when you squat down in your warm ups and get a shooting pain in your hips, you probably didn't break your femur, and the next rep will likely feel completely fine.

Second, pain can indicate that stretching or metabolic triggers are being activated. And, because we both expect and want this to happen during training, it's nothing to be concerned about.



If you do a set of chest flies and your pecs feel painfully stretched at the bottom of each rep, you can expect this pain to bring growth instead of injury.

Or, if you do a set of 20 leg presses, your quads might hurt so much that you roll out of the machine in agony as you try to massage the pain out in desperation. Because this quad pain comes from the very same metabolite accretion that causes muscle growth and mechanistically cannot actually injure you, you're completely fine. Deal with it, and keep going!

The last possible category of pain is pain that properly detects that an injury has occurred.

The obvious question becomes this: How can you tell this final, importantly different kind of pain apart from the others?

While there is no certain method, there are at least three indications that can give you some insight.

INDICATION 1: The pain is in a small, specific area.

Usually, this occurs at the tendon or in/around the joint, not in the belly of a muscle. For example, if you're doing an overhead press and you perceive extreme discomfort in a very specific place in your elbow after the set, this might be a good indication of true injury.

At the same time, whole muscle burning is almost never an injury. There are very few injuries that make the entire muscle hurt at the same time.

INDICATION 2: The pain comes on suddenly.

Many of us know this feeling. The classic example is being in the middle of an exercise when all of a sudden you hear some sort of "pop" or "click." Or you might even experience a sudden loss of strength as a muscle or tendon seems to "give out."

Gradual pain onset can mean something, but that's usually detectable via the third indication in our list.

INDICATION 3: The pain gets worse with each rep, set, or session.

If pain hits but then the next rep or set or session feels notably better, you're probably going to be just fine. But if it gets worse over time, it's likely something to look into.

If you feel pain during your workout and it's not terrible, go ahead and test the waters by doing a few more reps, perhaps considering some pauses at the bottom to see if it helps.

If the pain stays constant during the set, finish the set (or discontinue the set early if the pain is extreme), honor your normal rest time, and try another set if it seems appropriate according to your best judgment.

If the pain improves in that second set from rep to rep, you're likely safe to continue on since you're probably not hurt.

On the other hand, if additional work makes the pain worse, stop.

Try to alter the technique or body positioning you use on the next set if it's just a bit of pain. Sometimes just finding a comfier technique eliminates pain completely.

If the pain is quite bad, try reducing the load you're using, slowing down the reps a lot, changing exercises for that muscle group for that session, or some combination of those.

Next time you come back to the gym to train that movement or muscle group, try to warm up and do the workout as if nothing is wrong.

If that *still* hurts and hurts pretty bad, keep the alternative exercises, techniques, cadences, or loadings that allowed you to train pain-free during the prior session.

Ease back into your normal efforts, and, after a deload, try that same original movement again. If this still hurts, now is the time to avoid that movement for a few months.

And, if most or all movements involving that hurt area are very painful, it's time to see a medical professional in most cases so that you can get a proper diagnosis. This last recourse is very, very rare since most incidents of pain in the gym aren't anything a slight change in technique or a bit of persistence through another rep or set can't handle.

8.

DON'T DO DUMB SH*T!

Sometimes getting hurt is just something that happens despite your best efforts to abide by rational, injury-reducing protocols.

That being said, much of the time in the real world, most people will do at least one thing to needlessly increase their chances of injury. Often, it's several things at the same time.

And, for lack of a more sympathetic way to put it, these people simply "have it coming." If you play with fire time and time again, eventually you *will* get burned.

So if you'd rather *not* be that person, here's a non-inclusive list of dumb sh*t to avoid doing.

Fortunately, most of these things appeal to common sense.



The Non-Inclusive List of Dumb Sh*t to Avoid

1. Rushing or skipping warmups
2. Altering your technique to grind out another rep
3. Maxing out at random
4. Accepting a "gym challenge" for max strength or reps without training for it
5. Trying to keep up with a training partner's load/reps/sets at the expense of proper technique
6. Doing "fuckery lifts" like a random muscle-up for no reason
7. Physical stupidity outside of the gym
8. Arm wrestling when drunk at a party
9. Pathetic parkour attempts
10. High-contact pickup sports like rugby

Having said all of this, you're an adult, so you're more than capable of making your own choices.

It's always heartbreaking when you take all of the proper precautions and *still* get hurt, but the silver lining is that it's difficult to get upset at anything other than what we might consider the grand architecture of the universe.

On the other hand, if you get hurt doing dumb sh*t, you have an opportunity to learn from that experience and *not* repeat the same mistake in the future.

But whether your injury was a product of foolishness or not, it's important to understand how to recover properly so that you can get back to training at the fullest capacity possible.

9.

THE POST-INJURY COMEBACK

With all of the tips and strategies we've mentioned so far, you can do much better than average in how often or how severely you get hurt. But, chances are, you *will* still get hurt at some point.

So when you do, what do you do about it?

After the injury occurs, stop training your injured body part immediately. If it's a really bad injury, seek medical attention and follow all advice from the medical professionals in the categories of surgery, physical therapy, and everything else.

At some point, you'll likely be medically cleared to train.

Unfortunately, this is precisely the moment in which the mystery begins since so few sources talk about exactly *how* to get back into normal training.

Sure, we all understand that "easing in" is probably a good idea, but we can provide more specificity than that.

In fact, we've put together the following six-phase guide with clarifying descriptions to help you navigate your return to training injury-free.

6 PHASES FOR NAVIGATING YOUR POST-INJURY COMEBACK

PHASES FOR NAVIGATING YOUR POST INJURY COMEBACK

THE ROM PHASE	Loads at 25-30RM Expand ROM 5+ RIR 1-3 sets, 3-6x/wk
THE REPS PHASE	Loads at 20-30RM Slowly Escalate Above 3-4RIR BFR Training? 1-3 sets, 2-4x/wk
THE SETS PHASE	Loads at 20-30RM 3-0 RIR If recovered, add sets
THE LOAD PHASE	Loads at 10-20RM When appropriate, load to 5-10RM 3-0 RIR
THE CAUTIOUS NORMAL TRAINING PHASE	Return to previously injurious movements Ease into warmups Emphasis on technique, slow eccentrics, stability, and control
RESUME NORMAL TRAINING	



PHASE 1: The ROM Phase

- Choose an exercise(s) for the injured areas and begin to train.
- Train with super light loads that reflect your 25-30RM.
- Focus on expanding your range of motion (ROM) with minimal or no pain.
- Keep five or more reps in reserve (RIR) on all sets.
- Focus on 1-3 sets of this type of work for 3-6 sessions per week.
- Once this protocol feels completely fine, begin the next phase. Be warned, however, that this phase can take days, weeks, or even months depending on the severity of the injury. The key is to be honest about the true pace of your recovery without rushing the process.

PHASE 2: The Reps Phase

- In this phase, you can start doing sets that reflect your 20-30RM.
- At this point, you can begin working towards 0 RIR from a conservative 3-4 RIR.
- Consider occlusion training in this phase if possible.
- Limit your sets to 1-3 per session with 2-4 sessions a week even if you feel great.
- Once that feels completely fine, you can move onto the next phase.

PHASE 3: The Sets Phase

- Keep doing sets that reflect your 20-30RM.
- Cycle from 3 RIR to 0 RIR over the period of several weeks in most cases.
- If you're recovering easily from session to session, consider adding sets to some of the sessions at the rate of no more than one set per session at a time. You might end up training 2-4 times per week with 3-8 sets per session by the end of this phase.
- Once that feels completely fine, you can move onto the next phase.

PHASE 4: The Load Phase

- Slowly add load as you move into the 10-20 rep range.
- If that feels doable, work all the way down to 5-10 reps if that's how you typically train that muscle or movement.

- During this phase, you should train exclusively between 3 and 0 RIR.
- Consider pauses and slow eccentrics at first to further minimize risk of reinjury.
- Once that feels completely fine, you can move onto the next phase.

PHASE 5: The Cautious Normal Training Phase

- This is the time to resume normal training with a few disclaimers.
- For example, you should now feel free to incorporate normal exercises including the exercise or movement that may have injured you in the first place.
- Ease into warm ups and heavier loads with an added focus on stability and technique.
- Focus on pauses and slower eccentrics more than usual.
- Always be aware of the formerly injured area while training.
- Once that feels completely fine, you can move onto the next phase.

PHASE 6: Normal Training Restarts

- Resume normal training completely.
- Depending on the injury, however, this might take:
 - Forever (like full pec tear)
 - More than a year (like a reattached triceps tendon rupture)
 - A few months (like damaged knee cartilage)
 - A few weeks (like a strained quad)
 - A few days (like a tweaked glute)

Due diligence to these phases is important for severe injuries that take months to heal from, but you can shorten this process for very small injuries if needed.

For example, if you tweak your calf during a session, you can dedicate the following session to moving through as many of these phases as possible.

In other words, your first few warm up sets can serve as the entire ROM Phase, and, if things feel excellent, you can do another set at 5 RIR for about 20 reps as your entire Reps Phase.

If that feels amazing, you can do *another* set of 30 reps with the same load, this time going very close to failure, which is your whole Sets Phase.

Do you notice the pattern?

Moving through those three phases in a single session is more than sufficient for any insignificant injury, so, at that point, you would be best to go home, rest, and come back to train your calves again three days later.

This time, you warm up and then, with each progressive working set, you increase the load by 20 pounds until you hit a 10RM weight with no symptoms at all on the last set of the session.

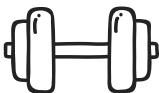
This would check off your completion of the Load Phase.

The next session after, you do the Cautious Normal Training Phase, take a recovery session for calves the session after that, and then begin the Normal Training Phase right after.

In this case, just two weeks of modified training could account for completion of all six of our recommended phases.

In the real world, some injuries really will just take two weeks to get over while others may take two months or even two years when it's all said and done.

What matters most is that you stay true to this progression. Similarly, don't rush the process, skip phases, or do them out of order. If at the end of each phase you feel totally fine, it's completely appropriate to move onto the next phase, but if you're not honest with yourself, you will be the only person that pays the price.



In summary, as it pertains to all things injury-related, let your body inform you when you're ready, not your ego. And, if you're ever unsure about the pace of your recovery, err on the side of a slower return.

Nothing about a conservative recovery process should ever be considered "soft" or "weak." In fact, there is much wisdom in listening to your body, incorporating a sensible

recovery protocol, and autoregulating the pace of that recovery protocol in order to potentiate even better performance outcomes once you're fully healed.

And that's it, folks! Remember to train hard, train smart, and recover even harder for a lifetime of incredible, low-risk gains.

If you'd like to consume this guide in video form, you can do that via our Injury Prevention Made Simple series on YouTube.

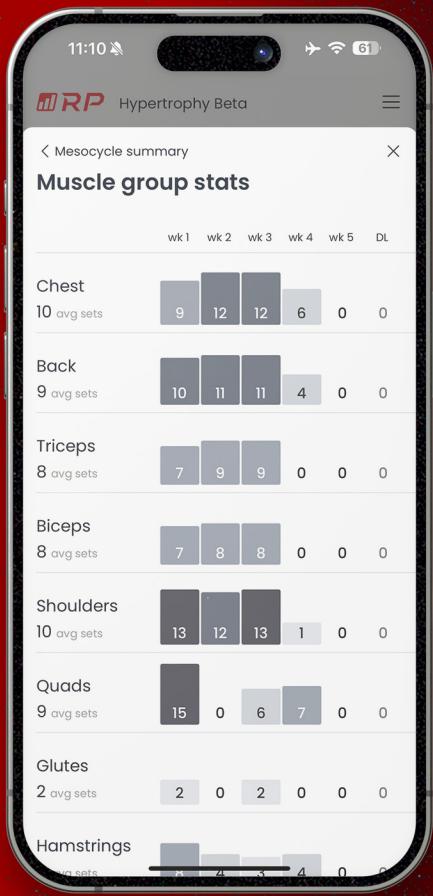
Injury Prevention Made Simple YouTube Series

Wherever your fitness journey takes you, we wish you the very best, and we hope to have more and more resources with which to help you at every step along the way.

See you next time!

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