HOW TO

STAY ACTIVE WHEN YOU'VE OVERTRAINED

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STERLING RIDGE ORTHOPAEDICS & SPORTS MEDICINE

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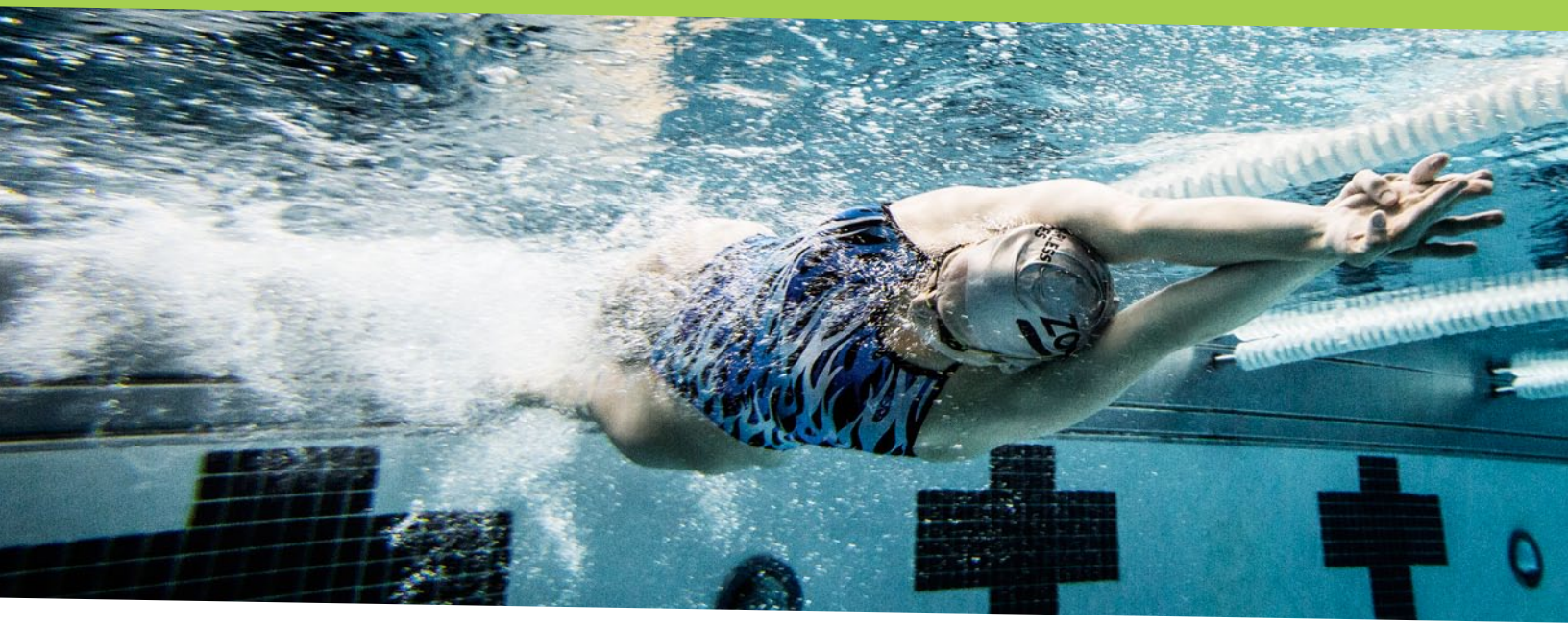
INTRODUCTION



Athletes of all ages and abilities often experience pain as a result of their workout routine or other physical activity. Most often the pain is caused by repetitive overuse of an area of the body. This is how some of the most common athlete ailments known as runner's knee, tennis elbow and others got their names.

Listening to your body and the pain you feel makes it possible to avoid serious injury that could potentially cause you to stop being active at all. The goal is always to keep you in the game… staying active even if your activity is adjusted for a period of time while your body recovers from the strain of overtraining.

This ebook will help you understand the kinds of pain and symptoms you might experience from overuse of an area of the body and how to assess the severity of your pain. Based on how much pain you're feeling, you'll find tips for pain relief at home and help to know when it's time to make an appointment with your doctor and/or physical therapist. Plus, you'll see how you can avoid overtraining in the future.

PAIN IS GOOD … EVEN WHEN IT'S BAD

We feel pain when specific pain receptors are stimulated. These receptors sense temperature (hot/cold), vibration, stretch, inflammation, and chemicals released from damaged cells somewhere in our body. Without pain we wouldn't know when to stop an activity that could cause harm. That's why it's a good thing that we can feel pain -- even if the pain is bad. It helps us gauge how far we can push our bodies, especially when working out, giving us a cue when it's time to stop an activity that's causing damage. The key is to listen to our bodies and then adjust as needed.

GOOD PAIN

Some pain exists to help you prevent an injury which could slow you down or cause damage to your body. Here are some ways that pain can be good for you...

Feel the Burn

When you're working out you may notice your muscles starting to burn. This is typically because the repetitive motion is building lactic acid around those muscles. The burning sensation will cause most people to stop working a muscle group before injuring themselves. It will typically go away when you stop working that area of the body because the lactic acid moves away from those muscles.

The Runner's Side Stitch

While running you might experience a pain in your side, just under your ribs. This is a good pain designed to tell you to slow down and regulate your breathing so that you have more oxygen getting to the muscles.

Sore Muscles

You've probably worked out hard enough to cause your muscles to be sore and/or stiff for the next 24-48 hours or so. This happens because you've worked the muscles harder than they're used to, causing microscopic tears in the muscle tissue. This can also cause some inflammation. As the muscles repair themselves over the next day or two, the soreness goes away and the inflammation goes down. By 72 hours after the exercise, you will probably notice it's completely gone. That doesn't mean you have to wait 2-3 days to work out again! You can work out the very next day and you'll probably even notice that the soreness has lessened after you're done. Try to alternate the areas of the body that you're focusing on. So if your legs are sore from yesterday's workout, try focusing on your core or your upper body or get in a good cardio workout.

BAD PAIN

We know you want to be "tough" which often means not stopping when something hurts. But you have to consider what kind of pain you're experiencing before you make the decision to push through it.

If you ignore bad pain, you could be causing serious damage to your muscles, tendons or bones. So be smart and stop when the pain is more than just a burning sensation. Taking notice and treating a minor injury will make you less likely to have a major injury. This helps you to "stay in the game."

If you notice any of these you should consider scheduling an exam by an orthopedic physician who specializes in sports medicine:

- Shooting or sharp pain during a workout or afterwards
- A pain that causes you to change the way you're working out (ie: change your running stride, the mechanics of your throw or your swim stroke).
- Pain that doesn't go away after 72 hours.

OVERTRAINING ASSESSMENT

Overtrained muscles are caused by repetitive overuse of a muscle group or tendon. Athletes who commonly overtrain include:

- runners
- swimmers
- baseball or softball pitchers
- tennis players
- golfers

SIGNS OF OVERTRAINING

- Pain that is more intense than regular muscle soreness after a workout.
- Muscle soreness or pain that doesn't go away after 72 hours.
- Consistent (sometimes called nagging) discomfort in an area of the body even when you're not using it.
- Pain or discomfort that is affecting your ability to sleep.
- Discomfort that builds in intensity over time.
- You have changed how you perform a move such as the mechanics of a throw, your swim stroke or your running gait.

The pain caused by overtraining isn't usually debilitating. You can still function in day to day life but that area of your body is uncomfortable both when you're working out and when you're not. If you can't perform normal daily activities, you need to seek medical help rather than try at-home care options.

THE RED-YELLOW-GREEN TEST

Dr. Keith Johnson, orthopedic physician and sports medicine specialist, avid athlete and three-time IRONMAN finisher, often talks with groups of athletes to help them understand if they've overtrained and what to do about it. He explains the Red-Yellow-Green test.

Green

If you have no pain at all, you're in the green. That's awesome… but not very common.

Yellow

If you're in the yellow, you're experiencing some level of pain. You will need to decide how severe the pain is.

Light Yellow - This typically means you have some discomfort that goes away after 48 hours from when you worked out or the pain dissipates if you give that area of you body some time to recover.

Dark Yellow - You're feeling the effects of overtraining and most likely ready to take action to have it resolved.

You might find yourself anywhere from light yellow to dark yellow and points in between. This is basically a caution area where you should give your body some extra attention but you can certainly keep working out.

Red

You're in the red when you've caused some damage due to not addressing the pain you were experiencing while in the yellow zone. This might include a stress fracture or tendon tear that will require you to be sidelined so the injury can heal. Most people can avoid the red by listening to their bodies and making adjustments before they cause major damage.

We want you to keep moving, We just have to find the right movement for you while you're recovering from an overuse injury.

- DR. JOHNSON

YOU'VE OVERTRAINED..... NOW WHAT?

KEEP MOVING

Sounds simple, but often doctors will tell you that if something hurts you shouldn't do that anymore. For an athlete, that news can be crushing. A better solution is finding a way to alter your movement to keep you fit and keep you moving, without causing further damage to your body.

For example, a swimmer who has overtrained her shoulder from months of consistent practice can stay in the water, but she needs to focus on her kick while her shoulders are healing. She can continue to stay in her sport and strengthen other areas without causing a rotator cuff tear or some other injury that would cause her to completely stop swimming.

OVERTRAINING RELIEF AT HOME

If you've recognized that you're in the yellow zone, you can start to take some action. Here are some things to try:

R.I.C.E.

This acronym stands for:

Rest - give that muscle group or tendon a few days rest. Work another area of your body during that time period.

Ice - Use ice on the injured area after a workout. you can place ice on that area of the body for 10-15 minutes every 1.5 - 2 hours. After 72 hours from the time you last used that muscle group in a workout, you can switch to heat on the same schedule.

Compression - Wrap the ice with an ace bandage or find a way to put pressure against the injured area while you're icing it.

Elevation - Keep it elevated to keep swelling down and to allow fluid to flow away from the injured area.

Allow for Recovery Time

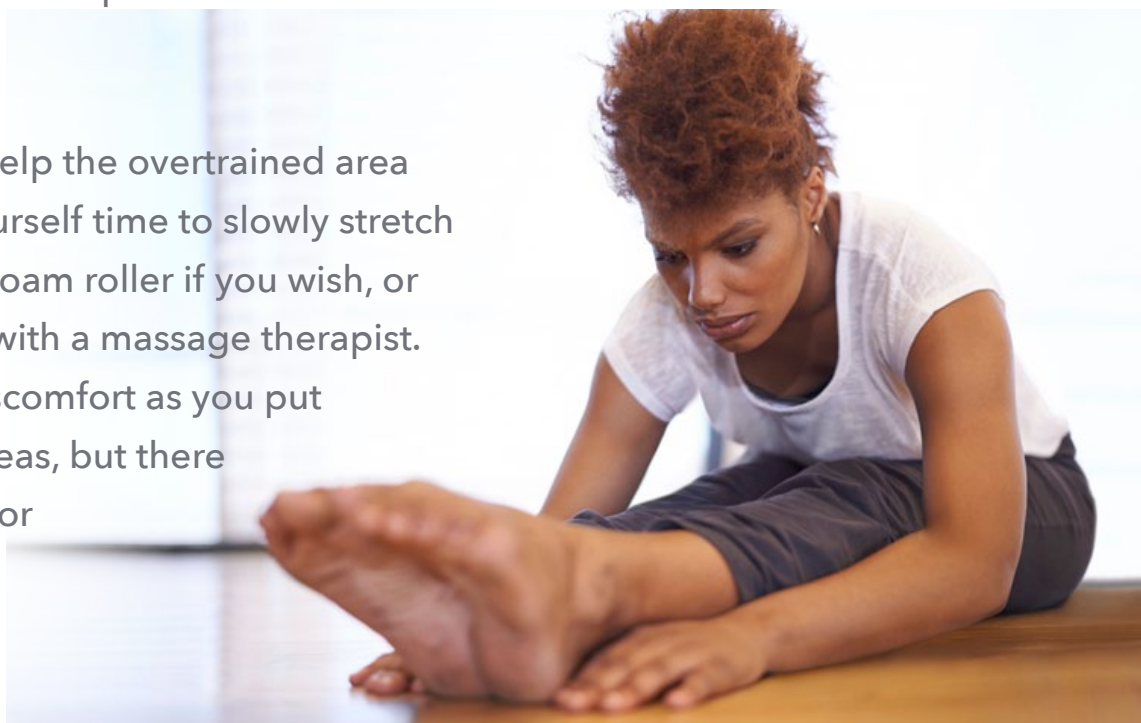
Give the area of your body time to heal itself. Take 2-3 days where you do a different activity. You can stay active, just don't do the repetitive motion that caused the pain. For example, a runner with achilles tendon pain could take a spin class or do a core workout for a few days before going back to running, giving the achilles tendon some time to heal on its own. Recovery time and R.I.C.E. are often successful when used together.

Pain Relievers and Anti-inflammatory Medications

Reducing inflammation can help a muscle heal. If your doctor has not previously told you to avoid ibuprofen for any reason, you may want to use an over the counter ibuprofen product to reduce the inflammation and decrease the associated pain for a day or so. Follow the package instructions. Check with your doctor if you're not sure whether you can use ibuprofen.

Stretching

Gentle stretching can help the overtrained area to feel better. Allow yourself time to slowly stretch an area. You can use a foam roller if you wish, or make an appointment with a massage therapist. You may have some discomfort as you put pressure on the sore areas, but there should be no shooting or sharp pains.



PROFESSIONAL OVERTRAINING RELIEF

If you're in the mid-yellow to dark yellow zone, you should consider some professional assistance to ensure that you don't injure yourself -- putting you in the red zone. Here are some of the techniques used with athletes who have pain from overtraining.

Myofascial Release

Physical therapists, especially those who work with athletes, use a massaging technique on soft tissue called myofascial (my-oh-FASH-al) release. Physical therapists are trained to understand our anatomy and how the body works in order to know how and where to relieve the pain. They're looking for "why" you're having trouble. You might come in reporting hamstring pain, but with their ability to assess your muscle tightness, they may be able to identify that you have overused your lower back muscles and can then perform myofascial release for your back to relieve the hamstring pain. This technique often provides immediate relief.

Graston Technique

The Graston Technique is a form of myofascial to release that uses a special metal tool to help the physical therapist sense where the muscles are tightest and need the most attention. This treatment lasts only 1 to 2 minutes but is a bit more intense because it's easier to focus right in on the areas that need the most help. Myofascial release is a little longer, in the range of 15 to 30 minutes, but doesn't have quite as intense of a sensation while releasing the soft tissue knots.

Aquatic Therapy

Getting in a heated pool with a physical therapist to guide you through a set of exercises will keep you moving with less strain on your muscles and joints. This reduces the risk of re-injuring an area of your body. The water provides buoyancy which makes it easier to move sore body parts. The physical therapist will have you perform various exercises to achieve your goals and get you back to your regular level of activity and strength.

Water can also provide resistance for those who are trying to regain strength after an injury. Pools with resistance jets allow you to set your difficulty level and work back to your regular strength or to improve your strength.

Alter G

The anti-gravity treadmill allows you to specify how much weight to unload from your body while running or walking. Reducing the weight allows you to keep running without aggravating the injury that caused the pain. Professional athletes often use the Alter G to keep themselves from overuse injuries or to help them recover quicker when they sense that they're in mid to dark yellow. You can also access the Alter G to help yourself avoid the dark yellow or red zone.

Over time, you can re-load more of your body weight till you get back to 100% of the gravitational pull without pain.

Plasma Rich Platelet (PRP) Therapy

This is a newer technology that can help overtrained tendons heal themselves using growth factors -- your body's own healing agents. This is mostly likely used for someone in a dark yellow or a red zone.

If you have a tendon that isn't healing after you've tried R.I.C.E., anti-inflammatories and physical therapy, or if you have a partial tear in a tendon, PRP Therapy could be a solution that will get you back in the game sooner than you could otherwise.

First you will need to be evaluated to see if PRP Therapy would provide relief. If the problem can't be solved using this therapy, other treatment options would be suggested.

If you are a candidate, your blood will be drawn and then separated -- white blood cells, red blood cells and growth factors. These growth factors can be injected into soft tissue that has been injured, promoting the generation of new cells in the injured area. This allows the tissue to repair itself quicker than it could have done otherwise.

WHEN SHOULD YOU SEE A DOCTOR?

Typically if you are in the yellow zone, and have had pain for 2 to 3 weeks while using the conservative, at-home care techniques, it would be a good time to schedule an appointment. You shouldn't wait for weeks to be seen either. In order to keep an active lifestyle you'll need to be assessed and diagnosed quickly in order to decide how to adjust your activities so you don't hurt yourself.

If you think you're in the red zone, or if you have any shooting or sharp pains you should seek an orthopedic specialist right away. They will be most able to relate to your situation and provide you with options for staying active, without doing any more damage to your body.

If you are told that you just need to forget about the sport or activity you love, you may want to find another opinion! In most cases it's possible to find a way to keep you in your sport while you heal and ultimately help you continue in your sport for years to come.

WHAT CAN A DOCTOR DO FOR OVERTRAINING?

When you visit with an orthopedic specialist your initial meeting should include:

- A description of your pain and how long you've had it.
- A discussion of your lifestyle and what has caused your pain.
- A physical exam.
- X-rays if needed to rule out fractures.
- MRI if needed to see detail in an area of the body.

If no fracture or tear is found, conservative treatment should begin including some or all of the following:

- Medication
- Physical therapy
- Bracing
- A plan for how to keep you moving without over-exerting the overused area of the body

Your goal throughout any treatment should be:

KEEP MOVING
DRINK WATER
EAT HEALTHY FOODS
GET REST

These things, combined with any other doctor-recommended treatments, will give your body the power to heal and the power to keep you active in the sport you love!

HOW TO PREVENT OVERTRAINING

If you've ever overtrained a muscle or tendon you know that it can be a bit of a challenge to get back to normal. Avoiding overtraining in the first place will help you stay in the game. Here are some tips you can start using right away to avoid overtraining.

CROSS TRAINING

Cross training simply means choosing a few different activities that will allow you to focus on different muscle groups and tendons. Running every day or even several times a week can cause overuse injuries. But if you can include other cardio activities along with running and strength training or yoga during the week, you are less likely to cause an overuse injury. Choose things you like and see if you can get a friend to join you. It's always more fun with your friends!

TAKE BREAKS

While Exercising

During your workout, you might start to feel discomfort or tightness in an area. Rather than just pushing through it, you can stop for a bit to stretch and rehydrate. It is likely to make you feel that you can keep going for the full interval of your workout.

Between Workouts

Give yourself a day to recover from a repetitive use exercise. If you're a tennis player practicing your swing on Monday, perhaps you could do a cardio workout on the treadmill or the bicycle on Tuesday, strength training on Wednesday and then go back to your swing practice on Thursday. Giving yourself that rest from the repetition will reduce your likelihood of overtraining.

LISTEN TO YOUR BODY

If you're exceptionally tired, thirsty, or in pain you should adjust your workout on that day or take the day off so you can get a good night's sleep and come back rested. Working out while tired can make your form sloppy and your reaction times slow. This could be the difference between an injury and a great day on the court.

HYDRATE

Start drinking water before you start exercising. If you feel thirsty during your workout you probably needed to drink more before the workout. If you workout in the morning be sure you've hydrated well the day before.

Then be sure to drink water during your workout, and then keep the water coming during the rest of the day.

Water is one of the most critical elements in the healing process.

WORKOUT PROGRESSION

Create a workout plan that will get you to a goal. Marathon runners don't simply start at 26.2 miles. They start with a few miles and then work their way up to the full distance by the time of the race. Find a plan that will work for you to increase the difficulty level and/or distance over a period of time while including cross training to avoid overuse injuries. Talk with your sports medicine professionals or a personal trainer to create a plan that will work for you.

ASSESS YOUR EQUIPMENT

No matter what your sport, you should take a regular look at equipment to be sure that it doesn't contribute to an injury.

Shoes

Especially for runners, this is your primary equipment, so be sure that you are fitted. Running stores will have staff trained on the various shoe options. They can help you to be sure your arch is supported, that your gait is taken into account and ensure the shoe is meant for the type of running you do (concrete, trails, etc.). Other types of athletes should be sure that they have shoes appropriate for their sport. Basketball players should wear high tops that are laced up to support the ankle.

Socks

If you don't have proper-fitting socks made from materials that are meant for your sport, you are likely to develop blisters. Blisters can cause you to perform differently and that can cause injuries.

Proper Clothing

In addition to shoes and socks, be sure that your apparel doesn't rub you raw or cause other discomfort that could make you perform differently. Also wear clothes that will allow you to wick sweat from your body so you stay drier. **TIP: Don't try any new clothing or shoes on the day of a competition. You could find that it bothers you and it can affect your performance.**

Protective Gear

If you're a volleyball player, be sure to wear the knee pads to protect yourself from knee injuries that might be caused by repetitive impact with the floor.

Bicyclists should wear helmets.

Basketball players or anyone else with side-to-side motion and jumping should consider an ankle brace to protect the ankle from instability and possibly rolling over which can tear or hyperextend tendons.

CONCLUSION

Here are a few important things for athletes of all levels to remember:

KEEP MOVING

When you start to experience signs of overtraining, adjust your activity, but don't stop moving. You just have to find the right motion for you! If you're experiencing sharp pains or you had a traumatic event, be sure to seek medical help right away.

CONTINUALLY ASSESS YOURSELF AND TAKE ACTION

Are you ...

GREEN - Pain free.

YELLOW - Experiencing some pain. Determine how close to red (debilitating pain) your pain is and take action starting with

- At-home care including R.I.C.E., stretching and altering your workouts.
- Physical Therapy including myofascial release, aquatic therapy and use of the Alter G machine.
- Physician care including an assessment of what is causing the pain and a treatment plan that allows you to remain active or return to regular activity as quickly as possible.

RED - Seek a physician's care right away if you have sharp pain, experienced a traumatic event or heard or felt any popping that wasn't related to a painless joint popping.

PREVENT OVERTRAINING

While you're in the light yellow or green zones, make a plan for preventing overtraining in the future through the use of

- Cross training
- Regular hydration and rest, and
- Working up gradually to your next fitness goal.

With these steps you're likely to enjoy many years of regular physical activity. Enjoy and stay safe!

ABOUT THE AUTHOR

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Dr. Keith Johnson is a board certified orthopaedic surgeon who not only studies the science of sports medicine, he is also an avid endurance athlete who uses the same techniques for staying in the game that he teaches to others.

Dr. Johnson graduated with honors from the Boston University School of Medicine and then completed his orthopaedic surgery residency training at University of Southern California, where he served as Chief Resident and was the recipient of multiple distinguished surgical and teaching awards. He then went on to complete a fellowship in sports medicine with specialty training in arthroscopic and reconstructive surgery of the knee and shoulder. He is currently an active member of the American Orthopaedic Society for Sports Medicine and is a Fellow of the American Academy of Orthopaedic Surgeons.

Dr. Johnson is an Ironman competitor, having completed two with more on the horizon. He's also an open water swim competitor and serves as the team physician for the Magnolia Masters Swim Team. He is pleased to be the personal orthopaedic physician for multiple professional Ironman triathletes and world champion finishers. His own advice has taken him and his patients to great physical achievements. He hopes that this book will provide assistance to every reader in their own athletic endeavors.