

10 Essential Tips to  
IMPROVE YOUR GAME  
and Eliminate  
**BACK PAIN**



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### **About the Author**

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Clarke Tanner, a practicing physical therapist and founder of Thrive Physical Therapy Inc., has been elected by Virginia Living Magazine as the "Top Physical Therapy Practice in Central Virginia" from 2014-2017. He is trained in Titleist Performance Institutes (TPI) methods and is certified through their Golf Assessment and Performance Training program. He is also a certified clinical specialist in Spine Care and Orthopedics with distinction through the North American Institute of Orthopedic Manual Therapy and holds a variety of other specialty designations. He has practiced for greater than seventeen years and, throughout his career, successfully helped thousands of patients, many of them golfers with spine and orthopedic related disorders. Clarke has also worked through his own back injury and is familiar with—and sympathetic to—the process of working back to full health. This personal experience increased his understanding and ability to more effectively assist his patients. He is passionate about physical therapy and enjoys working with his team to help his patients, and aspiring athletes return to the activities they enjoy and to thrive in life.

### **Introduction**

The most common ailment suffered by golfers--of all ages and skill levels--is back pain. According to statistics provided by Titleist Performance Institutes from surveying over 31,000 golfers, 28.1% suffer from back pain after playing. In professional golfers, lower back pain is also the most common complaint. Roughly 23% have "ongoing issues and pain" (TPI Course Manual). Tiger Woods is just one well known example. For the general population and golfers in particular, back pain rarely results from a single event or trauma, but rather accumulates from repeated, inefficient movements and repetitive stress to the spine during daily activities and sub-optimal swing mechanics. Let's break that down further and apply the principles directly to the golf swing.

The easiest way to explain the high prevalence of back pain in golfers is to understand what happens to the lumbar spine, or lower back, with rotation. The golf swing is a complex rotary activity that requires an efficient integration of the trunk, hips, and upper/lower extremities which is beautiful to watch when performed efficiently. But the lumbar spine has difficulty tolerating rotational stress. During the golf swing, a well studied sequence of movements occurs between the pelvis, thoracic spine, and upper/lower extremities. Well-coordinated movements minimize stress to the spine and increase accuracy and consistency. This sequence can only be created when the golfer's body has developed the requisite mobility, strength, control, alignment, and balance.

Lacking or weak in these, things go awry and problems can ensue. One common result is increased stress to the lumbar spine. For example, if an individual lacks rotation from the thoracic spine, hips, and lower extremities, then he or she commonly compensates by extending and/or rotating excessively from the lumbar spine during the swing. This compensation results in swing faults such as early extension of the hips during the down swing, altering swing plane, or a reverse spine angle at the top of the backswing (See pictures). The compensations will increase stress to the lumbar spine, potentially leading to back pain. The remedy is to increase mobility in the thoracic spine, hips, and lower extremities to allow an efficient swing to emerge.

The basic philosophy of **TPI**, as well as our program at **Thrive Physical Therapy**, is to improve the body's efficiency in movement through rehabilitation and appropriate training programs. If the golfer/athlete lacks the key physical attributes, then attempts at correction typically prove futile. But, with therapy and focused training, the athlete can be corrected and coached to a more efficient, and effective, swing. Or stated another way, fix the body first and the swing will follow!

With the preceding in mind, we have identified the factors in our golfers that contribute to their back pain. The key is to identify specific issues and to address them effectively. The following information and tips on how to improve your swing and treat back pain have proven effective through years of experience; some are backed by research and practice. These tips are general and not intended to be a substitute for sound medical advice provided by a physical therapist that understands your history, has thoroughly examined you, and has analyzed your swing. Only through a complete history, physical examination and swing analysis can the best course of action for you be accurately ascertained. We use the analogy of a puzzle with our golfers. Their individual problem is likened to puzzle pieces. Some athletes have more complex puzzles and require more pieces assembled before they feel a big change in their swing mechanics and symptoms, while others have simpler puzzles and their pieces fall together more readily. These patients/athletes respond more quickly. The key, really, is determining what your issues are and addressing them effectively. You can make a significant improvement in your situation by taking the steps provided. We want you to do well and benefit from increased knowledge. Commit to improving by working on what is most relevant to you and staying at it.

- 1. Use Ice and Heat Correctly:**

If you are having new symptoms or have recently exacerbated an old injury, then use ice for 15-20 minutes, 3-5 times daily for the first week following an injury or after you play your round. The defining characteristic is the existence of swelling and inflammation, usually present in the preceding situations. Swelling and inflammation respond most effectively to ice. The exception to this is if you have sensitivity to ice from a medical condition or from prior experience. Ice may not work for you. For best results, the only thing that has to be cold is your back, not you, so, for best results, make sure the rest of your body is warm.

**Use Heat:** If you feel stiff, or have an old injury, use heat for 15-20 minutes, 1-3 times per day. Heat is a good idea with more chronic injuries, as inflammation is usually less of an issue. It promotes muscle relaxation, connective tissue pliability, and increases circulation which promotes healing; besides, it feels good. Before your round, it is preferable to use an active warm-up; it will wake up your core/hips and more effectively prepare you to play. An effective, active warm-up series is difficult to explain and teach

in a written format. If you have interest in learning an effective pre-play routine, we would be happy to help. Call or respond to an email, and we will assist you.

2. **Sit Less:**

Sitting for prolonged periods (standing can be, as well, but that is for another topic) has been linked with many adverse health events which can be seen in this link for a New York Times article <https://well.blogs.nytimes.com/2016/03/29/sitting-increases-the-risk-of-dying-early/> . Also, from a mechanics perspective, static sitting tends to be tough on the spine and contributes to restricted hip flexor mobility, not helpful for your spine health or your swing efficiency. From a health perspective, our bodies are meant to move, so do it regularly and often!

3. **Critically Evaluate and Improve Your Alignment in Golf-Posture:**

In golf posture, the position you start out in determines how your trunk/core will function and, to a large degree, the efficiency of your swing. Initial setup, in optimal golf posture the head, scapula, rib cage, and pelvis, should be aligned vertically, as if directly stacked on top of each other in a slight squat position (See pictures below for ideal and dysfunctional postures). Please note, if you lack shoulder, thoracic, hip, or ankle mobility, achieving optimal alignment is more difficult to attain and maintain throughout your swing. According to TPI research **loss of posture (body alignment)** or any significant change in body alignment during swing (64.3%) causes a hook/block, which is commonly caused by inability to squat, mobility issues, core/hip stability deficits, inability to disassociate hips and trunk. Here is a link for correction of golf posture alignment (insert Thrive Correction of Golf Posture)



4. **Ensure That You Have Sufficiently Mobile Hips:**

If you lack hip mobility, which is common in the modern population, maintaining a well aligned golf posture and rotating efficiently through your swing is more difficult. One way to determine if your hips are tight is to lie on your back, firmly bring one knee to your chest, and then let the opposite leg relax towards the floor. If your knee has difficulty reaching close to your chest and /or your thigh has difficulty resting on the floor, this frequently indicates the need for more hip mobility. Here are links from our video library to two of our favorite methods of addressing hip mobility deficits.

3D-Hip-Lumbar Posterolateral Chain Stretch (Warning: do not attempt if you have had a hip replacement): [https://www.youtube.com/edit?o=U&video\\_id=WO5mjzewazs](https://www.youtube.com/edit?o=U&video_id=WO5mjzewazs) .

Supine Hip Flexor Stretch: <https://www.youtube.com/watch?v=eR3wXKyxedY>

5. **Ensure that you have Reasonable Core/Trunk Stability – Control:**

This is a bit more difficult to determine without professional advice. There are many factors that will contribute to core function as well as its effective training. There are multiple ways to determine an individual’s needs with this. However, a simple bridge with a foot lift is one of TPI’s screen components. **Step one**, lie supine on your back with your knees bend and feet on the floor. **Step two**, while keeping your back flat, lift your hips up approximately 4 inches from the floor to assume a bridge position (here is a link that will help to understand the starting position

[https://www.youtube.com/edit?o=U&video\\_id=0c0jvFk2pWg](https://www.youtube.com/edit?o=U&video_id=0c0jvFk2pWg) ). **Step three**, while

maintaining a completely still body, pick one foot off the floor, straighten the knee, and hold it for 10 seconds. If your body is reasonably efficient, you should be able to maintain a straight body, without sagging from the pelvis/lumbar spine. No rotation of the trunk should occur, and you should be able to maintain the position without actively having to brace your abdominals. Here is a video link to clarify what I am describing [https://www.youtube.com/edit?o=U&video\\_id=NsJjO4bfOag](https://www.youtube.com/edit?o=U&video_id=NsJjO4bfOag) . If you are able to do this easily, then you have at least somewhat adequate core and hip strength. If you sag or have to perform a large abdominal brace to accomplish the movement, then this is an area that could likely use additional work. Here is a link to beginning level trunk stabilization exercises that can be helpful as well as the video mentioned above from our library. We commonly teach this to our golfers: <https://www.youtube.com/watch?v=ikunORdr2wM>

#### 6. **Ensure That You Have Good Hip Strength:**

The hips are, essentially, the motor that produces the power for your drive, along with your core/trunk musculature. The core and hips work together functionally and are mutually dependent on each other. If you have a weak core, you likely have weak/suboptimal hips and vice versa, which will rob you of power and increase stress to your spine when driving the ball. With weak hips (and core), a common substitute in standing is to use excessive lower back muscle activity and have poor ability to maintain an efficient swing plane. This can contribute to pain (See picture below for a common example). A good test for this is to sit at the edge of the chair, cross your arms across your chest, hinge from the hips placing her nose over the toes. Practice standing up and sitting down by pushing down through your heels. Essentially, you are performing a standing squat with the use of your hips. If you are able to accomplish this 30 times with good technique while feeling the effort in your rear end (not your quads) with good balance, then your hip stability is at least somewhat functional. Here is are links to a sit-to-stand maneuver ,as well as one of my favorite beginning level hip exercises, both of which are good ways to evaluate and train for hip strength. Functional Squat <https://www.youtube.com/watch?v=SsB941ix8TA>, Resisted Lateral Stepping [https://www.youtube.com/edit?o=U&video\\_id=60y2HcxO6Gk](https://www.youtube.com/edit?o=U&video_id=60y2HcxO6Gk)



7. **Ensure that you have Sufficient Thoracic Rotation:**

If you lack thoracic mobility and have an increased thoracic curve, then the lumbar spine will typically make up for this deficit during your golf swing (particularly if there is insufficient core/abdominal control to prevent this compensation). See pictures above for examples of C-curve and S-curve postures, which typically indicate poor thoracic mobility in most golfers. There are more formal methods of determining if you have adequate thoracic rotation, and we would be happy to instruct you on them, if you have further interest. Here is a beginning exercise from our exercise library that is helpful in improving thoracic rotation as required for an efficient swing:

[https://www.youtube.com/edit?o=U&video\\_id=3jaetPx1jWc](https://www.youtube.com/edit?o=U&video_id=3jaetPx1jWc)

8. **Ensure that You Have Good Single Leg Balance:**

In order to have an efficient swing and play golf well, it is imperative that you have good balance. Here is a way to evaluate it: With your weight centered on your feet as mentioned in step one attempt to stand on one foot and remain still without shifting your body or hip. You should be able to accomplish this for at least 15 seconds without extraneous body movements, or dropping/rotation of the pelvis. If this is difficult work, to retrain it and improve balance, practice standing on one leg while maintaining vertical body alignment and a stable pelvis. According to **TPI statistics**, tour **professionals** are able to maintain a single leg stand with eyes closed for **16-20 seconds**, on average.

9. **Insure You Have Good Ankle Mobility:**

In order to achieve an efficient golf posture and to swing efficiently, it is essential to have adequate ankle mobility. Lack of ankle mobility can adversely affect rotation of the lower extremities and your ability to generate force, robbing you of power and/or adding to lumbar spine stress. A good way to determine if you have the necessary ankle mobility is to evaluate your ability to perform a full squat as shown in this video [https://www.youtube.com/edit?o=U&video\\_id=SsB941ix8TA](https://www.youtube.com/edit?o=U&video_id=SsB941ix8TA) . If you are unable to keep your feet facing straight ahead without turning out at the lower leg, and or you cannot squat without shifting your weight back over your heels and leaning forward at the trunk, it is quite likely you have insufficient ankle motion. Here is one of our favorite corrective ankle exercises from our video library that also develops hip strength.

<https://www.youtube.com/watch?v=xjZbvkABtgQ>

10. **Find a Good Physical Therapist/Golf Performance Specialist:**

I am obviously biased here, but there is no better action you can take to get rid of pain and improve your golf swing than to work with an appropriately trained physical therapist. I have worked with a large number of golfers--with varying degrees of spine dysfunction--and helped them achieve miraculous improvement and return to play, pain-free and well. Everyone should work with a physical therapist for prevention as well as treatment for conditions and injuries. Much like you have a dentist for preventive care, you need regular physical therapy for maintenance and prevention as well.

To that end, I recommend a few guidelines to find the appropriate professional. Your therapist should have specialty training in hands-on corrective care (manual therapy). Manual therapy has been shown to be more effective than traditional physical therapy and is golf specific in its techniques. Manual therapy is hands on work to mobilize and manipulate stiff joints, increase muscle relaxation, improve connective tissue pliability, and facilitate proper movement or muscle activation. The ultimate goal is to improve how your body functions as well as your golf swing. Also, your therapist should provide some degree of one- on-one care without heavy reliance on aids/technicians. Your sessions should not feel like a group exercise class or a trip to the gym. Your training should facilitate an active approach, focused on improving your overall movement efficiency. Your therapist/specialist should be a good educator and should provide an understanding of corrective exercise, posture, and golf specific movement training, should empower you to self manage and to improve your condition/game. If you are in need of a good physical therapy group, please consider us. My team and I are highly

effective at helping people eliminate pain and get back to thriving in life. I am confident your experience will be exceptional if you should need our help

## **Conclusion**

So there you have it: 10 tips (plus bonus links for corrective exercises and additional education) that you can work on to improve your swing, reduce back pain, and improve how you feel on a daily basis. Commit and work on them regularly! Small things can make a large difference, but it takes dedication, positive belief you will improve, and consistently working to improve. These suggestions are only a beginning. Much more can be done to get you feeling better and back to playing the game you love! In the coming weeks, we will be sending you more advice on how to improve your general health and get back to an active lifestyle, including the role physical therapy plays in that process. I hope you enjoy the information and will use it to achieve your goals. In addition, may this be the beginning of a long-term relationship with us at Thrive Physical Therapy. We hope to provide you with the information and care you need to achieve a healthy and active lifestyle, a great golf game, and a life in which you thrive!

In good health,

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## **Health Advice Disclaimer**

We are giving general information that helped our patients with a variety of spine-related disorders. It is not intended to be specific to your condition, nor can we determine if it is the best course of action for you without knowing your condition and history, and without undergoing a thorough physical exam by a licensed physical therapist. Each individual's presentation, progression through the rehabilitation, and results are unique and varied, depending on multiple factors. Significant injury risk is possible if you do not follow due diligence and seek suitable professional medical advice about your injury prior to participation in any exercise or corrective program. Thrive Physical Therapy

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