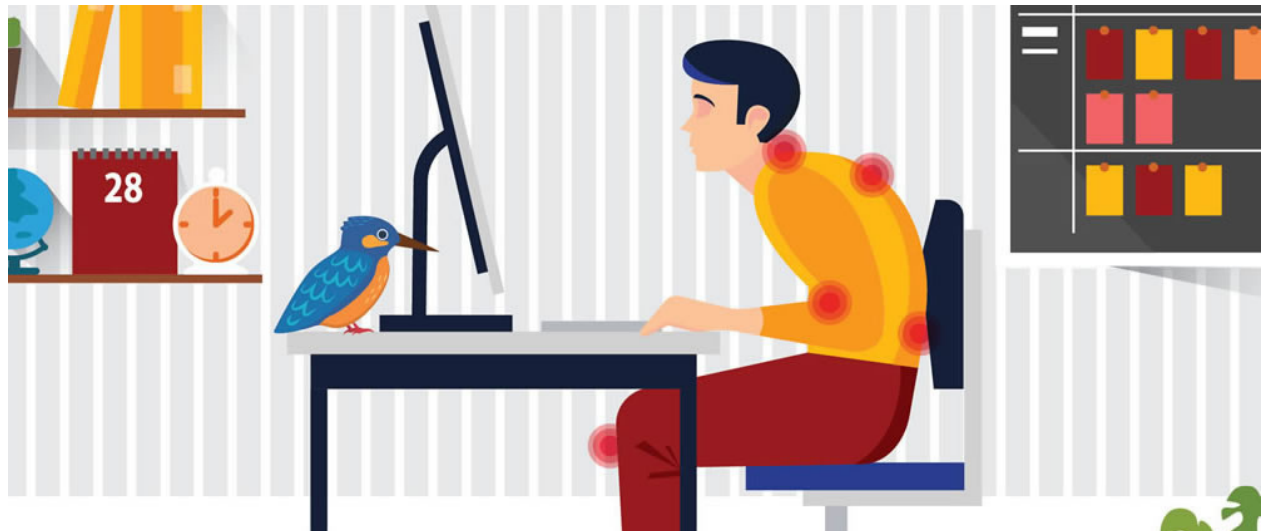


ERGONOMICS

The latest tips from RecWell Athletic Training



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ERGONOMICS EXPLAINED

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IN THIS ISSUE

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Have you ever had low back pain or a stiff neck during a long day at class or more recently after a marathon of zoom sessions? Or have your knees started to ache after standing or walking all day at an internship or work? Ever wonder why this happens and what you can do about it? The objective of this article is to tackle a challenging topic that has become increasingly relevant due to the pandemic that is COVID-19 and subsequent development of the “home office”, it is called ergonomics. This article will define ergonomics, address common methods to resolve ergonomic needs and illustrate how both an ergonomic assessment and orthopedic evaluation can complement each other to help those in need.



Discussion

Define and Address the cause of your symptoms and pain

What does ergonomics mean? The Merriam-Webster Dictionary defines ergonomics as: an applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely (8). Ergonomics is also called and sometimes discussed as human engineering, human factors, or biotechnology. As



you can see, ergonomics most commonly addresses an individual's pain or restrictions by considering the capabilities and limitations of those who work (1) and then adapts and adjusts the physical work environment around them to solve the problem. There are several ways to address ergonomic needs and it varies depending on the type of work individuals participate in (physical labor or sitting at a desk), the type equipment a worker needs (standing desk or standing foam mat) and even workplace rehab to perform workplace duties safely (2).

So, what are some common ways to address ergonomics? The most common way for individuals to resolve ergonomic related issues is to go to the human resources or environmental health and safety department and request assistance to address and potentially resolve their concern (5,3). From there, the individual may be sent to an approved website to order appropriate ergonomic equipment, they may be referred to an ergonomist to assess their individual needs in the workplaces. Each of these options has its costs and benefits but ultimately will resolve an individual's need to resolve pain or address workplace restrictions.

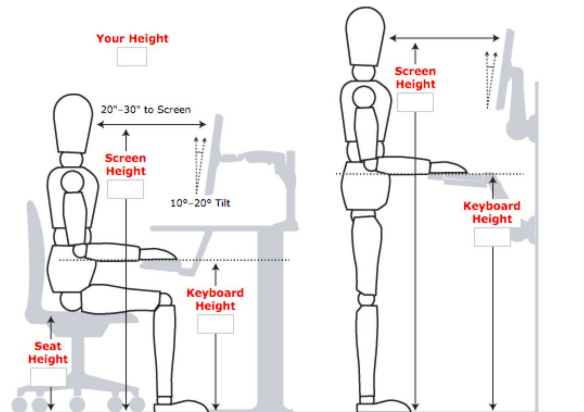
Another method to address ergonomic challenges is to go see a health care provider specializing in orthopedics like an Athletic Trainer or Physician and get an orthopedic evaluation of your pain and/or restriction. Generally an orthopedic evaluation related to pain at work is used to illustrate the need for an ergonomic assessment due to an orthopedic issue (performed by a orthopedic physician or physical therapist) or when the traditional ergonomic assessment has not completely addressed the needs of the individual.

How can an orthopedic evaluation compliment an ergonomic assessment and vice versa?

While the ergonomic assessment addresses the mechanical needs related to the physical work environment, the orthopedic evaluation addresses the biomechanical needs related to the individual (1). When we combine these two methodologies together we truly have a complete treatment plan to address a person's pain or restriction. Lets say for example you have the most common ergonomic issues low back pain and carpal tunnel. How do we address both issues?

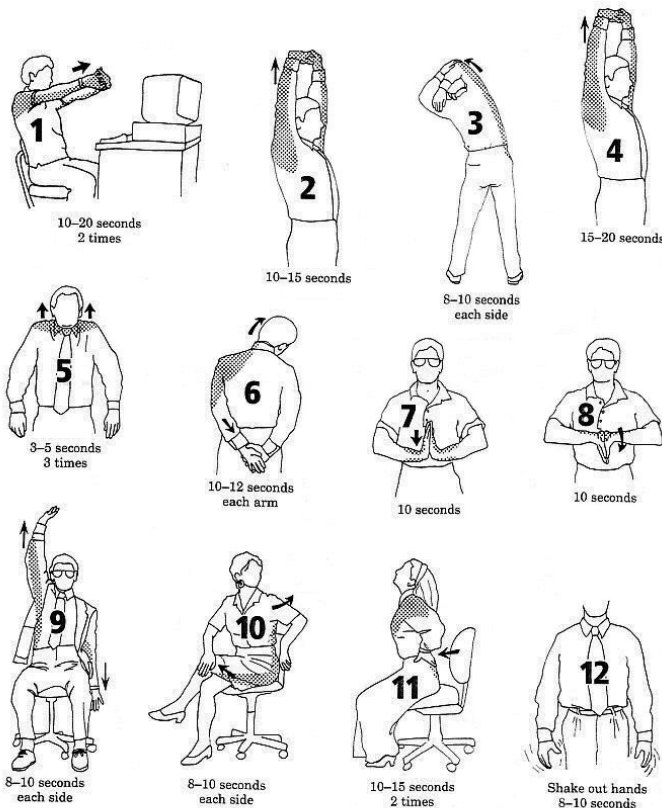
The ergonomic assessment reveals that you need to keep your wrist in a neutral position and that you need some low back support and adjust your computer screen height. You don't have to go out and purchase a fancy device or a new keyboard, you can use things around the house! For example, roll up a towel and position it in front of the keyboard. Considering the low back pain, let's say you really want to buy a fancy chair and desk to address both the back support and computer height. It is okay to do so, just be sure to get several recommendations from the ergonomic professionals before you make a purchase as these things can vary dramatically in price and function. What may work for one person may not work for another.

The orthopedic evaluation will focus on the carpal tunnel and low back pain through rehabilitation exercises. To address the carpal tunnel exercises such as wrist stretching and grip strengthening to medial nerve glides (don't worry about the fancy terminology, it's a type of stretch). Addressing the low back pain could involve a series of extension and rotation exercises or a modified plank series. As you can now imagine, combining both of these is extremely effective and will help you greatly over time.



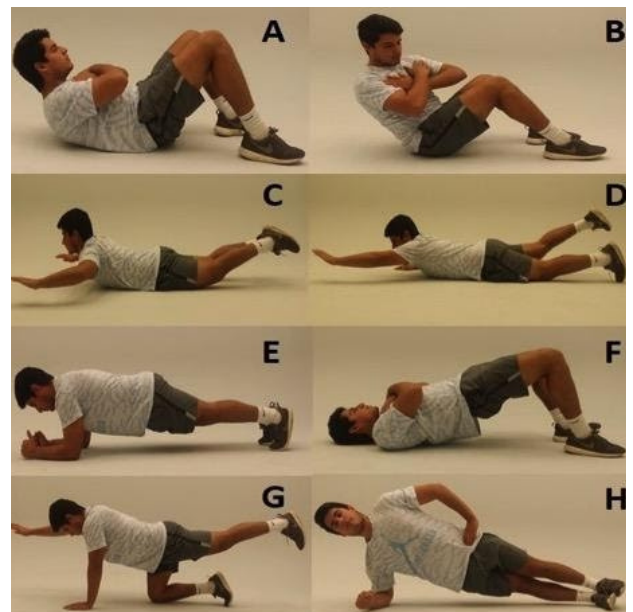
Athletic Training Support

You are probably wondering, how does all of this relate to me as a student and what can I do on campus to resolve my problem? Easy, come and see the UMD RecWell Athletic Training Department. We will do our best to help you resolve any issue you may have. As Athletic Trainers we can provide numerous resources, tools, and solutions you will need to help resolve any ergonomic related issue. Below we have provided some resources for treating common low back and neck pain (2 stretch programs and 1 core program) and links to some great websites that can help you start on your own!



1. Seated Arm and Wrist Stretch (10-20
2. Standing Arm and Wrist Stretch
3. Side Bend
4. Standing Arm and Wrist Stretch with bend (not depicted)
5. Shoulder Shrugs
6. Standing or Seated Neck Stretch
7. Standing Or Seated Phalen's Stretch Phase 1
8. Standing Or Seated Phalen's Stretch Phase 2
9. Seated Arm up Arm Down "Reaching" Stretch
10. Seated Twisting Low Back and Glute Stretch
11. Seated Chest Stretch
12. Shake it out...

- A. Crunches
- B. Rotation Crunch
- C. Back Extension
- D. Alternate Arm and Leg Prone Extension
- E. Plank
- F. Glute Bridge
- G. Super Dog OR Alternate Arm and Leg Kneeling Extension
- H. Side Plank



HELPFUL RESOURCES

- <https://recwell.umd.edu/activities/club-sports/athletic-training>
- <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/office-ergonomics/art-20046169>
- <https://ergo-plus.com/fundamental-ergonomic-principles/>
- <https://ergo-plus.com/office-ergonomics-10-tips-to-help-you-avoid-fatigue/>

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