Hi everyone, and welcome to this episode of Teach Strong. This is the teaching and learning podcast for the Armstrong campus, and I'm your host, Nancy Remler. With me today is Andi Beth Mincer, an associate professor from the Department of Rehab Sciences in the physical therapy program.

When we think about our jobs as educators, we don't often think about the hazards of our work. After all, not many of us anyway are scaling tall heights, or operating dangerous, heavy equipment, but even sitting at our desks grading papers, or operating computers regularly can cause injuries. I've asked Andi Beth to join us today to discuss how to avoid injury, and how to treat it if we've already caused some kind of pain or discomfort. Welcome, Andi Beth.

Andi Beth M.: Thank you.

Nancy Remler: Thanks for being here.

Andi Beth M.: Happy to be here.

Nancy Remler: I wonder if any faculty on our campus approach you to describe their physical ailments and what they should do about it. Do you get that a lot?

Andi Beth M.: Well, I think physical therapists everywhere get that from everyone that they know. Not just the people they work with.

Nancy Remler: Okay.

Andi Beth M.: Sure.

Nancy Remler: What are the most common complaints that our colleagues have?

Andi Beth M.: Well, it's a wide variety. Low back pain is certainly very common, very prevalent. Neck pain, injuries related to various and sundry activities they may have been engaging in.

Nancy Remler: Okay, okay. What physical, I'm going to call them physical ailments or problems, I'm not sure about the technical term. Is there one?

Andi Beth M.: The term most often used that's related to the kinds of risks that faculty members are involved in is repetitive stress injury.

Nancy Remler: Stress injury, okay.

Andi Beth M.: Yeah, RSI or-

Nancy Remler: Or what?
Andi Beth M.: Various and sundry terms.

Nancy Remler: Okay.

Andi Beth M.: The acronym RSI.

Nancy Remler: RSI

Andi Beth M.: Repetitive stress injury or ailment.

Nancy Remler: Okay, okay. What kinds of injuries do higher ed faculty mostly encounter as a result of sitting at their desks?

Andi Beth M.: It's the computer use that's the biggest problem, and faculty are not unique in that they are at risk for repetitive stress injury for using a computer. I haven't seen statistics on it, but I suspect that compared to your traditional office worker, who is essentially chained to their computer for eight hours straight, faculty are at least fortunate in that we do have some required activities outside of the computer, where we have to get up and go to class, or we have to look away from the computer because a student in their office having a conversation. That kind of thing.

In some ways they're slightly less at risk, but if you look at the statistics from the Occupational Safety and Health Administration, really anybody who uses a computer more than four hours a day is at significant risk for developing repetitive stress injuries.

Nancy Remler: Oh, so that means that if we are teaching more and more online, then we put ourselves a little bit more at risk.

Andi Beth M.: True, but I suspect that most faculty even if they're not teaching online, when they're not teaching in the classroom they're essentially in front of the computer doing research or editing, that sort of thing.

Nancy Remler: What kinds of exercises or stretches or therapies do you recommend to faculty who spend that much time sitting at their desks or sitting at computers?

Andi Beth M.: One of the really important things to recognize about repetitive stress injuries is that prevention, like so many things, prevention is so much more important than treating it once it develops.

Nancy Remler: Okay.

Andi Beth M.: These can be really significant, serious injuries that persist for a long time, and end up affecting other parts of one’s life. Paying attention and doing what you can to prevent is the most important.
Nancy Remler: Preventing in this case would be just getting up.

Andi Beth M.: Well, that's a really huge thing, yes, absolutely. It's not computer work per se, we'll talk a little bit more about certain positions, and adjusting your work station to help minimize risk, but a lot of the problem is related to just the sustained activity. We tend to get busy, we're involved, we're thinking, we're on task, and we just go, and go, and go, and go. Next thing we know, we've been sitting in exactly the same position for three or four hours, which is way too long. Most of the experts recommend 30 minutes, really-

Nancy Remler: Really?

Andi Beth M.: ... as the outside time, not for using your computer, but to break up your computer use by about 30 minutes. It doesn't have to be anything terribly structured, although one of the recommendations is that in any 30 minute period at your computer, 20 minutes should be sitting at your computer in a good position, eight minutes should be standing in a good position, and two minutes should be stretching or activity.

Nancy Remler: Okay, okay.

Andi Beth M.: In this electronic age we have a huge advantage over people years ago, because we can easily on our computer or on our other electronic devices, set reminders. We can have a chime every 30 minutes to say, "Hey, you've been there for a while. Maybe you want to stand up."

Nancy Remler: Well, I guess we also are in an age where it's easier for us to change our position, because we have laptops, and we have tablets, we have smartphones. I guess the optimal thing would be to get away from the computer altogether.

Andi Beth M.: Well, it's sort of a double edged sword though, because yes, having a variety of devices does allow us to change our position somewhat, but those other devices really carry their own risk. If you think about your position sitting in front of a computer at your desk, a desktop computer, chances are because the work surface height is pretty standard, your monitor is probably a pretty standard size, your keyboard is probably on a keyboard tray, you're kind of already not necessarily in the great position, optimal position, but you're probably in a pretty decent position.

I would wager that most of us, particularly at home, if we're working on a laptop, largely that means you're slid out in your seat, because you've got your laptop propped on your knees, which brings your neck really farther forward toward the screen, which is kind of a terrible position to maintain for very long.

Nancy Remler: Okay.

Andi Beth M.: Same thing with phones. How many times do you see people with phones-
Nancy Remler: They're just looking down.

Andi Beth M.: Down, down, down, down, down.

Nancy Remler: Okay.

Andi Beth M.: Or your iPad. Right?

Nancy Remler: Then you've brought up something that's I guess a risk I put myself in often, but not only am I working at a computer a lot, but I'm grading papers a lot, so I'm often in that hunched over position.

Andi Beth M.: Exactly.

Nancy Remler: Which causes upper back pain, neck pain, that sometimes it takes days to get rid of.

Andi Beth M.: Right, sure, sure.

Nancy Remler: I don't know of a way to avoid the position.

Andi Beth M.: Right.

Nancy Remler: Even if I'm sitting at a table.

Andi Beth M.: Do you use a laptop or a desktop primarily?

Nancy Remler: Well, primarily when I'm on a computer I'm using a desktop, but if students have handed in papers-

Andi Beth M.: Right, right, right.

Nancy Remler: I'm a novelist, and so I write my drafts by hand. I'm sitting at a table-

Andi Beth M.: Oh sure.

Nancy Remler: ... like this, and so I don't have a way to lift my shoulders and neck upright.

Andi Beth M.: Right, right. Really I think it still comes back to monitoring the amount of time you're in one particular position. I don't think there is an ideal ergonomic, that's a study of work positions. I don't think there is an ideal way to write longhand for grading and that sort of thing. The key would be break it up.

Nancy Remler: Take breaks.

Andi Beth M.: Right, so between papers stand up.
Nancy Remler: Okay.

Andi Beth M.: Move around, stretch a little bit.

Nancy Remler: For those of us while it's key to avoid the injury altogether, for some of us I think it's too late. Are there any stretches or exercises that you would recommend?

Andi Beth M.: There are several. For upper back, well, sort of the guiding principle behind any exercise that's really intended to help either prevent or remediate problems related to computer use, the guiding principle is reverse the position that your body is in when you're using a computer.

If you think about forearms, wrists, and hands are one of the areas that people have chronic complaints about from computer use. If you picture the position that your arms and hands are in using the computer, your elbows are bent, your fingers are more or less curled over the keyboard. If you were thinking, "Oh, I know I need to move. What do I need to do?" Just think. Well, if my elbows are bent most of the time, then straighten it out. Straighten let's say your right arm out. If your fingers are curled over the keyboard, how would you take that backwards? You would extend your fingers and your wrist as far as you can.

Nancy Remler: Okay.

Andi Beth M.: That's going to help sort of undo some of that chronic tension that your muscles and joints and things like that hold. You could take that to the upper back, and if you think about the typically sitting posture, whether you're using the computer or not, is to have your shoulders kind of round forward towards each other. If you wanted to again, prevent or remediate in that position, sit up tall, and bring your shoulder blades as close together as you can in the back. You should feel an opening in the chest when you're doing that.

Nancy Remler: Okay.

Andi Beth M.: Again, as far as you can, hold it for several seconds, relax. Another good, for the neck, a lot of it is just about moving it instead of holding it stuck still, which we tend to do while we're using the computer. Easy things like slowly turning your head in one direction as far as you can, hold it for a few seconds, then the other direction as far as you can and hold it for a few seconds. Look up toward the ceiling, look down toward your knees.

One of my favorites is to, it's a little bit hard to describe an exercise using only audio. Let's say I want to stretch the right side of my neck. An easy way to do that is to tuck your right hand under your thigh, if you're sitting in a chair, tuck your right hand under your thigh. Reach over the top of your head with your left hand toward your right ear, and just gently, easily use your left hand to pull your left ear towards your left shoulder. Gently, gently, gently. Force is not the name of the game, it's just assuming that position.
Nancy Remler: Okay.

Andi Beth M.: The reason you have your right hand tucked under your thigh is really just to help kind of hold your shoulder down, so that when your head moves, you get a better stretch.

Nancy Remler: Okay.

Andi Beth M.: If you start doing that, what you'll find is that you can fine tune that stretch. If doing a straight towards the left stretch feels good, but it's not quite getting at the area you need, then play with turning your head a little more to the left, and still pull it in that same direction, and it's going to change where it stretches.

Nancy Remler: Okay.

Andi Beth M.: Or your left hand, instead of reaching straight up and over your head, think about reaching a little bit more towards the back of the right side of your head, and pulling toward your elbow. That's going to shift where the stretch occurs.

Some of it is trial and error. You know when you're stretching something that needs to be stretched, usually.

Nancy Remler: Okay.

Andi Beth M.: Can I say one more of my favorites?

Nancy Remler: Sure.

Andi Beth M.: One of the absolute most important that we can do is, sitting is really, really, really hard on the low back.

Nancy Remler: Okay.

Andi Beth M.: Another really easy one for back, again preventing or addressing, a lot of the reason people have low back pain is standing up, keep your knees straight. Well, going back up, put your hands on, if had pants on, hip pockets. Put your hands on your hip pockets, keep your knees straight, and just bend backwards over your hands. That's a really, really tremendous way to reverse some of the stress that your low back undergoes with prolonged sitting.

Nancy Remler: That's good to know. Well, since you're talking about lower back pain, I'll shift gears a little bit and ask you about some of the research your graduate students have been doing, because I know a year or two ago there was a study they did about the differences between sitting in chairs and sitting on balance balls, and how that might affect back pain. I happened to be a participant in that study. What were the findings of it?
Andi Beth M.: Well, while we’re talking about that study I want to give a shout out to some of my colleagues, because that study, although it was conducted a couple of years ago, just this past fall got published in one of the preeminent not physical therapy journals, preeminent medical journals in the United States.


Andi Beth M.: That would be Dr. Davies, Dr. Welford, now Henderson, Dr. Lake, and some student researchers collaborated on that. Anyway, basically they measured lots of different things. One of the things they measured in the participants was pain and disability.

They found that that did not change, whether people were in- This was a really fabulously designed study. It wasn’t just dividing people in half, and half of the people sit on the ball, and half of the people don’t, and then you compare what happened to them. They actually, the participants, half of them sat on the ball, half of them did not and used a regular chair, but then after a certain period of time, they crossed over. That was also tracked, so that just adds another dimension of quality to the findings.

Anyway, the people who used the ball did not have less pain or disability, but they did have more ... the ability to use their trunk muscles over a longer period of time, more than the other people did.

Nancy Remler: Okay. Well, interesting.

Andi Beth M.: Yes.

Nancy Remler: Does that have implications for anything that we do on the job?

Andi Beth M.: Yes, yes.

Nancy Remler: Should we all go out and get a big balance ball?

Andi Beth M.: It has implications for everyone who, again, low back pain is not one problem. There's several different reasons for why people have low back pain, but one of the very common reasons is because our muscles aren't being used regularly, and they lose that ability to contract over a long period of time.

Nancy Remler: Okay.

Andi Beth M.: The fact that that ball study showed that even just sitting with the ball and working actually helped that, does have implications for back pain. Although for the number of participants over the time that they were involved in the study, it didn't show any change in pain, but that doesn't mean that it's not preventing problems down the road.
Nancy Remler: Down the line. Good to know. Well, speaking of, balance balls, they had their heyday a little while ago, and everybody was sitting on them, and now it seems that people have gone to the standup desk, which is something I have in my office and really enjoy. It's nice to have a way to change position and still work with a computer.

Andi Beth M.: Exactly.

Nancy Remler: What are your thoughts on those standup desks?

Andi Beth M.: I think you've said something really important, which years ago the thinking behind using ergonomics to prevent these repetitive stress injuries used to be, "Well, if I can get someone in a perfect position for what they do, it will minimize their risk." What we now know is that yes, perfect positions are great, but even a perfect position is not going to do as well as being in that perfect position, but then changing your position, and then maybe changing back to that perfect position. Maybe changing to a different position. It's not so much the is it perfect or is it not? It's, is there some variety for your bodily structure?

One of the things standing desks do is absolutely give that, especially for the low back.

Nancy Remler: Okay.

Andi Beth M.: In a standing desk, you can tell me, because I don't have one, but in a standing desk unfortunately, your upper body, your shoulders, your wrists, your hands, your neck aren't necessarily in much of a different position.

Nancy Remler: Yeah, that's true. That's true. We're still standing with arms in front of us.

Andi Beth M.: Right.

Nancy Remler: Looking straight ahead.

Andi Beth M.: Right, and one of the things that I think it's important to be careful about, it kind of relates to what we talked about with laptops. Let's say when you're on the standing portion of your desk, you switch to your laptop instead of your monitor, which is on the other part of your desk. Well, the laptop screen tends to be low, which tends to make you drop your head and your eyes down and forward, which actually could put your neck in a more risky position.

Nancy Remler: Okay.

Andi Beth M.: Everything sort of works together, but I do think that the standing desk, particularly when you're in a situation where you could use the standing portion or the sitting portion, I don't think I would necessarily want a standing desk if that was my only choice.
Nancy Remler: Right. Well, who wants to stand all day?

Andi Beth M.: Exactly, because I think that's going to shift the repetitive stress injuries to the feet, the knees, and the hips.

Nancy Remler: Well, let's talk about some of those other, we've mainly talked about sitting at the desk, and working at the computer, which is what we're doing very often.

Andi Beth M.: Right.

Nancy Remler: I'm also thinking that our faculty in certain disciplines find themselves at risk of certain other injury just by way of the things that they do, not only while they're teaching, but if they're doing their research they do in addition to their instruction. For instance, I would imagine that faculty in the sciences who must do some lifting of equipment, maybe those who are working in the greenhouses, or the-

Andi Beth M.: Health profession.

Nancy Remler: ... health professions, who have to lift equipment, run the risk of other kinds of injuries because of the lifting.

Andi Beth M.: Sure.

Nancy Remler: What should we do to prevent those kinds of injuries?

Andi Beth M.: One piece of advice that really applies to both injuries as a result of working at the computer or injuries as a result of inappropriate lifting or unusual stresses, one of the general recommendations, and this is totally supported in the research. Any sort of regular exercise that someone does, it could be walking, it could be swimming, it could be anything, totally unrelated to what muscular stress you're talking about. Any form of regular exercise is going to reduce your risk of all these other things that we're talking about.

Nancy Remler: Okay, great.

Andi Beth M.: Being active is going to go a long way towards preventing any of these types of injuries. That's going to be really important. I think lifting types of injuries are particularly risky for people whose other part of their job is sitting, probably.

Nancy Remler: Okay.

Andi Beth M.: It's kind of a flip side of the same coin about being active helps you reduce those risks. Sitting at the computer, unfortunately, helps your muscles get very lazy. Then you ask them to do something that otherwise would not be terribly stressful after X number of years of mostly sitting at a desk, your muscles aren't quite what they once were. That kind of puts people at risk.
I think some of the advice we give everyone that's involved in a job that requires lifting is being more prudent about judging your ability to lift something. Get help, even if, "Wow, I'm strong, I'm tough, I don't need any help." Well, that may have been true, years ago. Maybe the last time you lifted something like that, but it may not be true now, so err on the safe side. Get help.

Clearly, the old adage of use your knees and not your back certainly applies, getting a load close to you instead of having to reach out.

Nancy Remler: Sort of away from you, yeah.

Andi Beth M.: Sure. Those are easy things to remember.

Nancy Remler: You taught me, I don't know if you remember this, but you taught me that lesson one day after a scholarship of teaching round table meeting. Do you remember that, when I was picking up a cooler?

Andi Beth M.: Right.

Nancy Remler: Andi Beth nearly screamed when she saw me bend over and pick up that cooler.

Andi Beth M.: That's right.

Nancy Remler: She said, "You're going to ruin your back!"

Andi Beth M.: Right, right.

Nancy Remler: I had never ... I had heard the phrase lift with your legs, but never really understood what that meant, or how to do it, until you showed me how to do it.

Andi Beth M.: Right, right, right. Squatting, usually about halfway down, and then using your arms for the rest.

Nancy Remler: Yeah.

Andi Beth M.: We tell our students to teach people to think about if they had a book on their head, keeping their eyes up, their head up while they're going down helps prevent the leaning forward and lifting.

Nancy Remler: Okay.

Andi Beth M.: You can't avoid it 100%, but it sort of helps minimize it.

Nancy Remler: It helps. Well, good. Well, any other good advice you have for us as we embark on a new academic year and want to keep ourselves as safe and healthy as possible?
Andi Beth M.: There are some really good resources out there that would enable you to see some of these exercises, or see how should my computer be set up? If you think about it. Lots of good resources. One of them used to be, it's a website. It is a dotcom website, but it used to be associated with IBM years ago, but it's still a very, very product neutral recommendations based in sound science website. It's called HealthyComputing.com.

Nancy Remler: Oh, okay.

Andi Beth M.: Also the University of Virginia has a site, if you go to Virginia.edu, and then you search on ergonomics, there's a wealth of ways to help you figure out work site setup, exercises, they have a choreographed dance routine if anyone is so motivated.

Nancy Remler: Oh, cool.

Andi Beth M.: Related to that sort of thing.

Nancy Remler: Dance party in the office.

Andi Beth M.: Yeah. There's lots of good information out there. OSHA, the Occupational Safety and Health Administration, also has information on computer workstation setup, that's also very useful. There's plenty out there to help people.

Nancy Remler: Great. I'm going to be looking some of those up.

Andi Beth M.: Yeah.

Nancy Remler: I hope some of our listeners do too. Thank you, Andi Beth Mincer for joining us today, and I hope that you will listen to other episodes of Teach Strong as they are available this fall semester. Thanks.