

# **Saxophone Neck Strap and Harness Study**

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This paper is intended to inform woodwind players, particularly saxophonists, on the most beneficial strap and harness systems available on the market today. The factors I considered in this study include: the system's ergonomic sensibility, price of system, size, reviews and testimonials, and quality of materials used. That being stated, my main priority was to find the best possible system for a life of healthy playing (despite cost or size).

I will begin by giving a brief overview of my personal experiences with saxophone neck straps and harnesses. I started by playing the alto saxophone at the age of 10. I started on a conventional stock strap that cut into my neck, and aggravated the upper spine. I didn't practice very much (perhaps if I had a nicer strap..), so it was not detrimental to my health. I eventually got a classic neotech strap that was cushy. The advertisements for this strap make claims that it will "make your instrument feel %50 lighter and %100 more comfortable!". Sure, it was comfortable, but it bounced all over the place, and I could never figure out my embouchure because of it. I went to a jazz camp the summer of 2010 and was set straight when everyone there made fun of me and my cushy strap. I went the other way with it, and reverted to the original kind I used. A simple polyester strap, albeit with a nice metal fastener and good sitting and standing balance, that I still use today on my alto. This brings up an issue I will address later surrounding the "tough guys do this, bla bla" in the jazz world.

My bari sax and I have an intimate, and ultimately unfortunate relationship surrounding my body and harness systems. I have pretty much always used an aftermarket harness. I played the school's baritone sax in 7th grade, and the regular strap (similar to the one I described above) just about broke me in half, so I asked for a better one for Christmas. I loved and swore by my harness. It was so cool and streamlined and I'd never seen one out there like it. I still swear by it today, but only under certain circumstances I will discuss later. In the end, I could only manage an hour or so of practice time before the pain in my back became so unbearable. I switched to alto saxophone when my ensemble at Clackamas Community College needed me to, and I haven't looked back since.

I should qualify what I am referring to as "strap", "harness", and "harness system". A strap is a simple neck or across-the-back sling that supports the weight of the saxophone entirely on the upper abdomen with a linear loop. A harness is like a strap but slings under both arms and spreads the weight across more area. It is usually more involved with various adjustment capabilities. A harness system is a term I'm using (it's a new idea for saxophones, so there is no industry standard) for a harness that is non traditional. These vary from hip-supported systems to shoulder mounted braces, but all serve the same purpose: to hold the saxophone without putting pressure on the neck and upper back. I've been most interested in the harness systems because they address my particular history with large horns, and I can see a lot of benefit in getting away from the traditional "hang it off your neck and back" methods. I will discuss these at length later.

I feel the need to differentiate between the various saxophones before continuing. There are a few rare horns that I will not take into consideration. The contrabass and sub contrabass saxophones are too large to be healthy with any sort of strap, and the soprano is too small to require one at all. I did not focus much effort on harnesses for soprano, alto, and tenor because I

think they're cumbersome and not necessary. These horns are only 2-6 lbs. If the player is taking breaks, standing at balance, and playing with inclusive awareness, assuming there are no pre-existing conditions (in which case a harness should definitely be considered), all should be well. I will say, though, that trying many "conventional style" straps is necessary to find the right one for the player. We are all different. Like beds, cars, and chairs; we need to find what suits us personally and keep in tune with what our body is saying about our choices. I'm getting to the point with my alto strap where I need to switch it out. Not because it's troubling me, but because it could very soon become an issue. I'm operating under the logic that the same strap will connect with the same tissue on a daily basis and, no matter how "superior and inventive" the strap is, it will cause problems. I will have to iron this out with time, but my conclusion is that trading out two good straps on a monthly (at least) basis is best. The same can be said for harnesses. If I had swapped out two noticeably different harnesses during my young bari days, I could have avoided the problems it caused me.

An alternative to the straps and harnesses, and what the bulk of my research is based on, is using a "harness system". I think one of these should be considered by everyone playing a baritone or larger horn. These start at 11 lbs and are nearly twice the weight of a tenor sax (the next size down in the series). That being said, I will reiterate that no harm can come from trying a system on a smaller horn if the player is having troubles.

I will begin with the system that inspired me to research this in the first place. I met a local baritone saxophonist at a jam session last April that introduced me to a strap made by Ergonomic Systems called the "Freeneck System". And that it is. I loved the system at first sight. It features two cushy coated steel rods that extend up the back. They are connected to a belt that sits at the waist, and extend upward to a traditional style "neck strap". Except the strap doesn't

do much but brush against the neck when adjusted properly. This being my first experience with a very non-traditional strap (with the exception of my middle school idea to use a bassoon style “sit-on” strap for my bari). I would have loved to purchase one of these to display during my presentation, but the cheapest I could find this strap was \$150. This is crazy expensive as far as straps go, but I think it’s worth every penny. I will definitely be getting one to try.

“A Case Study of Posture Problems in Bass Saxophonists” by Judith Hills, a product design and ergonomics specialist at Glamorgan University, was a gold mine of information for me. She was able to connect the variables and issues with saxophonists to traditional front-load-bearing workers in history. These include apple harvesters and mailmen.

*“Transferring the load to the waist/hip area reduces pressure on the shoulders and trapezius muscle activity (Holewijn, 1990), with less discomfort reported when the load was supported mainly on the pelvis instead of shoulders (S. A. Reid, Stevenson, & Whiteside, 2004). Side muscle (latissimus dorsi and teres) fatigue in mailbag users, was reduced when additional support with a waist belt was included in the design. (Bloswick et al., 1994).”*

Her findings compelled her to design and construct a prototype harness that both supported the saxophone by the waist, as described above, and used a vest to keep the horn naturally centered and close to the body. While I think her design is probably best for comfort of a marching musician (her case study was done on a marching bass saxophonist), it would be overkill for a baritone saxophonist who gets to put his horn down every 10 minutes at least. Also, I don’t think it’s very practical to pack a life-jacket looking harness to every gig unless it is absolutely necessary (like, for example, marching and playing a 22 lb bass saxophone for an hour). The Freeneck system fits right into the bell of a bari, requiring no more space than a traditional

harness. Lastly, it looks just like a regular strap from the front, and is easily disguised by the suit jacket that comes with the territory of performance.

Another harness system I checked out was the Saxholder. It features two hard marching style “shoulder rests”, and unusually, an abdomen rest that extends down the torso. There is no belt, and the horn is supported by the trapezius muscles, and the abdomen. While it doesn’t put direct pressure on the spine, it’s certainly a stretch when they claim “no stress on neck”. They apparently don’t know where the neck ends and the shoulders begin. Having something pressing on my stomach doesn’t seem like a good idea when I’m trying to fill my guts up with air. After seeing the models in their ads with their fingers incorrectly placed on the keys (not real sax players!), I decided to not try this one out. I was curious how it turned out for those that did and found some interesting posts on a well-respected saxophone forum. Most players who tried it liked the system, but said that the abdomen rest took some getting used to. Some agreed with me and raised the same points I had. I think that wearing the thing under the assumption that it will improve “posture” will make musicians pay more attention to their sitting and standing balance, with positive results. The musicians that gained from this strap will probably find better results after switching back to their regular straps. That’s all well and good, but the abdomen pressure would annoy me.

Awareness is what a lot of this boils down to. Judith touches on this in her study of Jim the marching bass saxophonist:

*“Observation of the participant using the harness with the saxophone showed aligned and level shoulders and hips, although some of this can be attributed to the participant’s increased awareness of his posture. Laterally his stance was more upright*

*and although his body was still in contact with the instrument he was not leaning backwards so much with his upper body.”*

If a player is aware of his or her physical state (balance, energy, pressure points), they are more likely to fix the problems as they arise. Taking breaks when needed, standing at balance, and switching out straps on a regular basis would probably be enough for most players (with the exception of the baritone sax because of its sheer weight).

Lastly, I want to address an interesting aspect of saxophone (certainly jazz saxophone) culture that could make much of this work irrelevant to some musicians. I hate to say it, but there's definitely a “tough guy” syndrome when it comes to straps and harnesses. Right when I got to PSU there was a student that criticized me for using a harness with my bari. This person had no hard facts to support their claim, and it all turned out to be some macho idea that the ‘ol leather strap is just as good as any. Also, people compare sax harnesses to bras. I can see that, and I don't mind being on the butt end of that joke because I'll be the one laughing in the end. That's why I'm excited about the Freeneck system. It's so discreet that it won't deter people who worry about those things.

I had a great time researching these topics, and feel like I'm ready to make a purchase. More importantly, I feel informed. I'm certainly more ready and able to help other sax players sidestep the commercial garbage and hearsay about straps and make a decision based on their individual needs.

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