# Supporting the mobile workforce

BY SHONA ANDERSON

In the past decade, the work environment has changed dramatically. The standard of all employees coming to an office every day with only salespeople traveling consistently has given way to a more mobile workforce in which telecommuters work from home and people work in their cars, in coffee shops and “hotel” in office buildings.

The introduction of reliable Wi-Fi, webcams and small-input technology (tablets, laptops and smartphones) has made this possible. According to statistics from 2013, 2.6 percent of the U.S. employee workforce considered home their primary place of work. The same report indicated that "telework has grown nearly S0 percent since 2005," with more employees working multiple days out of the office.[1]

There are many benefits to working outside of the office. From an organization's perspective, it creates a more flexible workforce that can cover global time schedules, reduces real-estate costs and helps attract and retain top talent who long to have more flexibility. From an employee perspective, workers gain flexibility, decrease commuting time and increase productivity and work/life balance. Global Workplace Analytics found that two-thirds of people want to work from home and that 36 percent of workers would choose the flexibility of working from home over a pay raise.[2]

## Telecommuting: Factors to consider

Companies need to take many factors into account when developing telecommuting and mobile office policies. One of the most important things to consider is the health and safety of employees. Many companies allow employees to bring their own devices and employees are choosing all manner of tablets, smartphones, laptops and desktop computers.

Mobile workers may work out of a set room in their house, but more often than not, they are working at a kitchen table or a cheap desk that may have been purchased without consideration of ergonomic design. They may also spend a portion of their time working out of their cars on devices that require them to sit in awkward positions or at coffee shops, where they work at a table or counter. Mobile workers can get injured just as easily as any office worker, if their work environment and equipment are not set up properly (ergonomically) for them.

Mobile workers may be exposed to the risk factors associated with repetitive strain injuries when using handheld or other electronics devices in non-standard furniture set ups. "Blackberry Thumb," "iPod finger" and "Nintendinitis" are all forms of Carpal Tunnel Syndrome, De Quervain's tenosynovitis and tendinitis that can cause pain, weakness and numbness in the hands, fingers, thumbs and wrists.

Frequent users of laptops often complain of neck and upper back pain. The risk factors include holding a hand-held device for prolonged periods, hunching forward over laptops or hand-held devices and bending the neck or back forward, repetitive use of the thumb or fingers, working at high counters/desks/tables and awkward wrist and finger/thumb positions. Many people associate neck and back pain with sleeping incorrectly, a poor mattress or old age, but this is frequently a result of improper workstation and device set up.

There is no limit to the places that mobile employees can work. For those who plan to do so on a prolonged basis, it is important to ensure they set up optimally to avoid injuries. Here are some common issues that mobile workers face, with some possible solutions.

## Poor standards lead to poor postures

In developing telecommuting policies, setting furniture and equipment standards is often one of the trickiest parts. Employees don't generally want to replace furniture or equipment that they already have if the company isn't willing to compensate them for it.

### Desks

Many workers who are used to working at a desktop computer will plan to work at a desk or table when they work from home. If they already have a desk situated in a spare bedroom or home office, it may not meet proper standards.

Standard-height desks or kitchen tables are generally too high for most people in terms of keyboard and mouse usage. This causes them to sit too high in the chair and perch on the edge, or hold awkward wrist positions with pressure points from the desk edge.

It is always best if employees sit with feet flat on the floor and keyboard and mouse situated at the 90-degree bent elbow height. This often requires a desk with a height-adjustable keyboard tray. It is important that the employee has purchased a desk that is sturdy enough to be able to support the weight of a keyboard tray. Some desks made of MDF board may not be suitable. It is common to find employees have purchased desks that come with a keyboard "drawer," which is designed to hold a keyboard and mouse. A frequent problem with these is that they are not height-adjustable (thus they are only suitable for a certain height of employee) and they are often not wide enough for both keyboard and mouse to sit side by side. Ideally, these trays should be 27 inches wide.

## Chairs

Companies are encouraged to set a standard for the type of chair that mobile workers use. There are so many poor chairs on the market, many of them with the word "ergonomic" in the name, but that offer little to no proper back support and adjustability. A mobile worker sitting all day in a home office needs proper support to be comfortable.

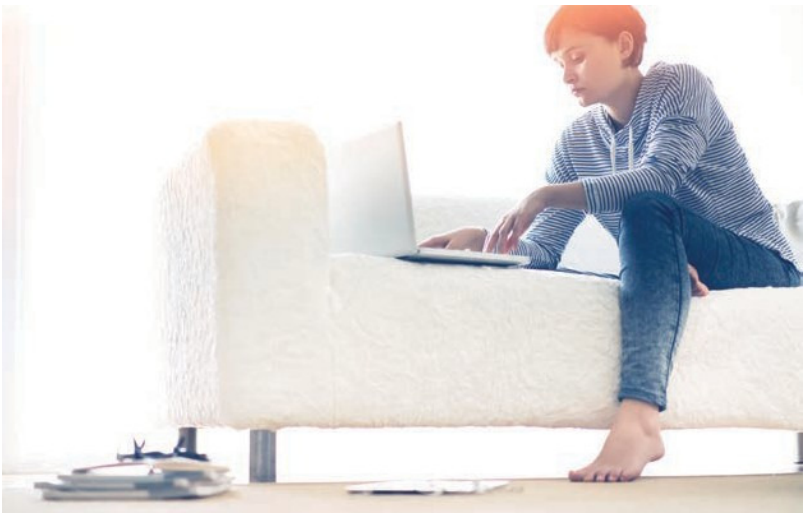
## Devices

Cell phones, tablets and laptops can kill backs, necks and hands. Most workers have smartphones and most mobile workers will use these along with their computers. Often, phones are held by hand with users bending their heads downward to view the screen. This can cause issues with the muscles in the back of the neck that support the head.

An article written by Dr. Joshua M. Ammerman discusses a computer model created by Kenneth K. Hansraj, MD, chief of spine surgery at New York Spine Surgery and Rehabilitation Medicine. This model indicates that the strain on your neck rises as the forward angle of your head increases.[3]

He found the following:

- 15 degrees of forward tilt may equate to a head weighing 27 pounds.
- At 30 degrees forward, the strain on the neck equals that of a 40-pound head.
- The greater the angle, the greater the strain: 45 degrees forward equals 49 pounds of strain and 60 degrees forward equals 60 pounds.



As the head comes forward, the shoulders also round, which creates poor posture over time. Using a cell phone frequently throughout the day can contribute to a host of issues over time, including headaches, sore neck and upper back, and pressure on nerves down the arms. The same thing happens when using a tablet or a laptop. If placed flat on a table, the head and upper body bend forward to view.

Another area that is affected through frequent use of smartphones and tablets is the hands. A consistent problem with touch-screen keyboards is that they lack tactile feedback and don't move or offer resistance when pressed. According to Alan Hedge, director of the Human Factors and Ergonomics Laboratory at Cornell University, this results in users striking virtual keys with as much as eight times the force they use to tap real ones, which can put strain on the fingers, wrist and forearm.[4]

To solve this problem, it is best if phones are used only for short periods or with blue-tooth keyboards or voice-recognition software. Tablets should be angled on desk surfaces. Laptops should be used with a separate keyboard and mouse and with either a docking station and separate monitor or raised to the correct eye height. Again, it is important to set the correct height for the keyboard and mouse.

## Options

Mobile workers tend to experience fewer disruptions than traditional office workers and thus may spend too many hours working in one position. However, they have many options when selecting where to work. This can be a benefit as they are able to change their postures throughout the day.

They could stand at the kitchen island and work for a short time or bring their laptop to the couch and work on it there. Holding the laptop in their laps is actually not bad if they are reclined as their knees can hold the laptop in a raised position with the keyboard and mouse angled downward. This brings the screen close to their eyes and the keys close to their fingers. If working out of a hotel, this is actually the best position for using a laptop while lying in bed.

Working at a table in a coffee shop makes for an awkward posture as described above; however, if only done for short stints occasionally, it can offer a nice change of scenery.

## Vehicle ergonomics

A mobile worker may choose to work in a car with a laptop. The difficulty with this is that the laptop is often situated to the side, either in a laptop holder or on the console. A person sitting in the driver's seat will have to twist to type and view the screen due to the steering wheel in front of them. This twisted posture can place strain on the muscles in the lower and upper back and neck.

Depending on the length of time that an employee spends on a laptop in a vehicle, measures can be taken to ensure the working postures are more optimal. Sitting in the passenger seat with the laptop in the lap or on a laptop holder in front of the passenger seat can help employees to avoid twisting.

Placing the laptop into a holder on the steering wheel can bring the laptop into a better position as well, as long as the seat can be pushed back far enough.

There are many benefits to having mobile workers in your organization. As your company is putting together policies for communication, hours of work and safety, don't forget one of the most important — the standards for furniture, types of equipment to be used and guidelines on lengths of time spent in different positions is essential to ensure injuries don't occur. FMJ

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