Give me a BREAK!

By Tamara Mitchell

You probably know you are “supposed to take breaks.” But you ask, “Why bother?” Many of us seem to prefer to plow through our work without interruption (and pass out at the end of the day). Barreling through “on a roll” makes us feel productive and taking breaks seems like a waste of time. We continue this habit in the evening and lose track of time as we surf the internet, answer emails, or concentrate on hobbies. After hours have passed, we “wake up” to realize that our eyes are tired, muscles are tight, and our rear ends are flat.

Why take breaks?
You will actually work more productively (and last much longer) if you break up your work. Research has shown that frequent breaks from 30 seconds to 10 minutes are beneficial.¹ The benefits include increased performance and reduced fatigue to the eyes, lower back, neck, and wrists, especially when breaks were taken at 20 minute intervals rather than at 40 minute intervals.², ³, ⁴, ⁵, ⁶ Productivity is either unaffected or actually improved when additional breaks are taken.², ⁷, ⁸ In fact, in one study conducted by Alan Hedge at Cornell's Human Factors and Ergonomics Laboratory, use of computer-initiated microbreaks showed a 13% average improvement in accuracy, with faster computer workers showing the greatest improvement.⁸

The key to injury prevention is to minimize sitting. The longer you sit each day, the greater your risk of cardiovascular disease, even after you adjust for time spent in recreational activity.⁹ Even if you exercise for 15-30 minutes a day, the average American sits the rest of the day. People need to get up and walk around as much as possible to reduce health hazards of many types.⁹

Poorly designed workstations can increase the length needed for rest breaks by a factor of three.¹⁰ So, it's important to make sure that in addition to taking breaks, your workstation fits you properly and is not unnecessarily adding to your fatigue.

What type of break is best?
There are two types of breaks: Microbreaks last between 30 seconds to 5 minutes while longer breaks are 10-15 minutes. Several studies have proven the effectiveness of breaks in reducing the risk of overuse injuries. However, there is no consensus regarding the best length or frequency.
1) Forearm, wrist and hand discomfort occurring over the course of the work week with two 15 minute breaks during an 8-hour work day were eliminated when data entry operators added 5-minute breaks every hour. In addition, there was no reduction in productivity when the mircrobreaks were included in the day.1
2) “Micropauses” of 15 seconds taken every 10 minutes reduced fatigue at the end of a shift of data entry work by 50%.11
3) Frequent pauses are effective if they are taken before the onset of appreciable fatigue.12
4) Frequent pauses of 1.5 minutes resulted in a productivity increase of 6.45%. Pauses 2 minutes long produced a productivity increase of 11.15%.13
5) The optimal rest break length for infrequent rest pauses taken every 80 minutes is approximately 6 minutes.14
6) Either 5 minute breaks every 30 minutes or 10 minute breaks every hour resulted in similar reports of worker comfort and measures of accuracy. The 10-minute breaks each hour were less disruptive to work.7

To summarize, what matters most is that you break from a particular task to improve circulation and refresh your mind and body. If you break less frequently, such as once per hour, you will need to break longer, from 6-10 minutes, than if you break more frequently.

What affects people's break-ability?
It has long been assumed that hard-working and competitive “Type A” people would avoid taking breaks. A recent study looked at the influence of personality type, in addition to other potential variables.15 Big surprise! Personality type did not have a significant effect on break-taking behavior. Neither did physiological (anthropomorphic) characteristics or pain level at break time.15 It should be noted that this study used a fatiguing overhead work task as the test. Computer work might result in completely different results. Some subjects chose to take regularly scheduled breaks or seemed to identify a specific pain threshold at which they took a break, while others tended to take fewer but longer breaks. Subjects were consistent in their break-taking behavior during the experiment, so it appears that there are individual characteristics predicting break taking behavior and preferences which have not yet been identified.

What to do during a break?
What can you do to rejuvenate your body for 15 seconds every 10 minutes? Drop your hands from your work, stretch, close your eyes, and breathe. Interrupt yourself right now for 15 seconds. It’s not really that long, is it? The trick is remembering to take that break BEFORE you feel the need for it. That is why it is important to integrate breaks into your work regardless of discomfort.

Examine the flow of your workday and take micro-breaks at convenient moments… Stretch after every three emails or while your computer is connecting to a link...Stand up after every three phone calls...Shake your arms after every third row of numbers. Congratulate yourself each time you complete even minor tasks (e.g., “Hooray! I finished editing that paragraph! Time to loosen my shoulders with a little shimmy and a
shoulder roll.”). Integrate movements you enjoy into the flow of your work. You’ll be more productive and you’ll feel better at the end of the day. In fact, taking a break or microbreak doesn't even have to mean you stop working! Stand up after 30 minutes of sitting to make a phone call or to read something, which gives your body a rest and disrupts awkward posture.

1. Take a few deep breaths that go all the way into your belly. Notice whether your belly, chest and back move when you breathe.

2. Massage your upper arms, chest, and the sides of your neck by tapping on them. Let your fingers relax, and allow your fingertips to bounce gently on your skin and bones as you tap. Then press deeper for a more effective massage of the tight muscles.

3. Stomp your feet on the floor.

4. Look away from the computer screen or reading material and blink your eyes slowly and gently. At the same time, massage your forehead to release excess tension.

5. Use a relaxed gaze to investigate things you can see as far away as possible. Without straining to see more than you can see easily, notice colors and textures, and trace outlines with your gaze.

6. Keep tennis balls at your desk and roll them under your feet.

7. Use tennis balls to massage tight areas of your back by putting one or two of them behind you and leaning into them. Use your own weight to regulate the amount of pressure. You can also lie on the balls. Be careful not to put pressure directly on your spine, but rather on the muscles on either side.

8. Rotate all your joints, using their full range of motion. Find ways to rotate your wrist, elbow and shoulder at the same time so that every joint is being used in the motion. Then do the same with your legs. Allow the thigh bone to roll around in the hip socket.

Derived from “Break Bits”, online newsletter of The Body at Work (www.thebodyatwork.com)

Break reminders
If it is a challenge to remember to take breaks, there are a couple of ways you can remind yourself. The simplest is to set a clock or timer. Or you can download a freeware program that you can set to interrupt you at frequent intervals. The two freeware programs we recommend are Workrave, or the software that comes with all Kensington mice and trackballs, listed below. There are other quality software programs available for purchase. The very best is RSI Guard. It works only with PCs. Stretch Break is available for both PC and Mac. MacBreakZ is a Mac-only break program. Most provide animated stretches to follow.
Another way to remember to take a break is to team with a coworker. One research study looked at the effectiveness of two-person work teams who were instructed to take 1-minute breaks every 10 minutes as an alternative to forced rest breaks.\textsuperscript{16} Forced breaks were administered whenever discretionary breaks were insufficient. It was found that computer-generated feedback to one or both team members regarding their break behavior resulted in better compliance with discretionary break behavior than if no feedback was given.\textsuperscript{16} Impatience and lower productivity were a trend for teams where only one member received feedback. In general, it was concluded that using teams to manage rest breaks was a possible alternative to forced breaks on a rigid schedule.\textsuperscript{16}

Whatever your preference, become a break taker today! Don’t wait until you are in pain to change your habit. You will survive deadlines with more energy and will be more productive on a regular basis.
### RESOURCES:

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<th>Software Name</th>
<th>Website Link</th>
<th>Description</th>
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<tr>
<td>Kensington Break Reminder.</td>
<td><a href="http://www.Kensington.com">www.Kensington.com</a></td>
<td>This free software provides a simple visual or audible reminder to take a break. The user can set the time interval between reminders. The visual reminder can interfere with some program applications, but it is generally possible to use an audible reminder that doesn't seem to interfere. If you're using a Kensington mouse or trackball, you can't beat the price of this program!</td>
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<tr>
<td>Workrave freeware.</td>
<td><a href="http://www.workrave.com">www.workrave.com</a></td>
<td>Currently this software has a microbreak and rest reminder that you can program to the frequency you want. A new version with animated stretches is being developed now and will be available soon. It also gathers statistics on your computer activity. Again, for the price, it's a great product and will soon be even better. Available for Windows and GNU/Linux.</td>
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<tr>
<td>RSI Guard. $65 with stretches.</td>
<td><a href="http://www.rsiguard.com">www.rsiguard.com</a></td>
<td>This is a highly intelligent program that monitors your activity on the computer and adjusts rest breaks according to the duration and intensity of your workload. This program introduces microbreaks with helpful tips and stretch breaks based on individual needs, allows the user to “auto-click” the mouse (saving thousands of clicks), gathers statistics on mouse vs. keyboard usage, and works seamlessly with the Windows operating system. (Not available for Macintosh).</td>
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<tr>
<td>Stretch Break. $44.95.</td>
<td><a href="http://www.paratech.com">www.paratech.com</a></td>
<td>This software features yoga-based stretches with customizable music sound files or an optional &quot;time-to-stretch&quot; reminder instead of the animated stretches. 36 stretches with 6 standing stretches are shown. Breaks are based on keyboard and mouse use. The user can control the sequence of stretches that appear. Available for Windows or Mac.</td>
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<tr>
<td>MacBreakZ. $25.</td>
<td><a href="http://www.publicspace.net/MacBreakZ">www.publicspace.net/MacBreakZ</a></td>
<td>This Macintosh program monitors keyboard and mouse use and suggests appropriate times for breaks and micro-pauses. It provides stretches, ergonomic information, and helps you recover if you are suffering from symptoms of Repetitive Strain Injuries.</td>
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ErgoCoach. $29.95. www.magnitude.com

Keyboard and mouse usage are monitored against breaks taken and the user is prompted to take a microbreak and stretch when it is determined that risk exposure has been exceeded. 20 fully-animated stretches for the eyes, neck, shoulders, arms, and legs last 35 seconds to one minute. For Windows only.

ErgoFun. $29.95. www.magnitude.com

This program begins with a tutorial for children and their parents to interactively improve the positioning of the computer components and workstation. Following the tutorial, the software reminds kids to take microbreaks and maintain good posture while they are using the computer. The software monitors keyboard and mouse usage against breaks taken and prompts the user to take microbreaks when needed. For Windows only.

REFERENCES:


8. When workers heed computer's reminder to take a break, their productivity jumps, Cornell study finds. Lang, S.S., Cornell University, Sept. 1999. www.rsiguard.com/cornell.htm


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All SRI employees have an open invitation to attend the Ergonomics Injury Prevention Class given every week. Check the SRI calendar link on the Insider home page.

For further assistance with your ergonomics questions, please contact Sally Longyear x4239.

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