The Autonomic Nervous System

The nervous system consists of two parts; one is under voluntary control, and the other is more automatic, called the autonomic nervous system. The voluntary part of the nervous system consists of the nerves that are used to produce intentional movement, e.g., if you want to have a sip of your tea, you tell your arm to reach out and grab the handle of your cup.

Many things occur in your body all the time that you don't specifically will, e.g. your heart beating, your lungs breathing, your glands secrete hormones, and your digestive system digests your food. These "automatic" things are under the control of the autonomic nervous system, shown in figure 6.1; they happen whether we think about them or not.

The autonomic nervous system (the big "A" in the drawing) consists of two arms: The *sympathetic nervous system* (SNS), which controls the stress response, and the *parasympathetic nervous system* (PNS), which triggers the relaxation response. The SNS is the invigorating part of the system: when you feel that fight-or-flight reaction kicking into high gear. The opposite of this is PNS activation: the relaxation response or rest phase. Your heart rate and breathing slow down, your muscles relax, and you feel calm. The SNS and PNS are like the ends of a seesaw, they balance each other out. When one arm is activated, the other is suppressed, and vice versa.

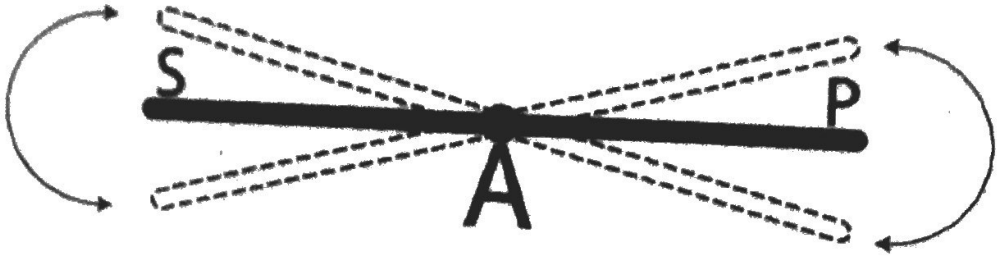

Fig 6.1

Sympathetic
Fight or flight
Relaxation

Parasympathetic
Rest phase
Arousal, activity

Balancing the Autonomic Nervous System

Despite being automatic, some aspects of the autonomic nervous system are also subject to voluntary control, e.g., you can control your breathing by purposely breathing more quickly or slowly, shallowly or deeply. Each in breath and out breath corresponds with one arm of the autonomic nervous system, as shown in figure 6.2.

How do you breathe when you are in a tense situation, scared or getting ready to face a physical challenge; do you sharply draw in a few deep breaths? Do you hold your breath? Do you start to hyperventilate (breathe faster)? These styles of breathing emphasise the in breath, and ultimately stimulate the SNS, increasing arousal. When the threat passes; you may heave a sigh of relief or release. This type of breath emphasizes the out breath. After practicing it a bit, you may be able to feel how the in breath is the more arousing part of the breath, and the out breath is the relaxing part.

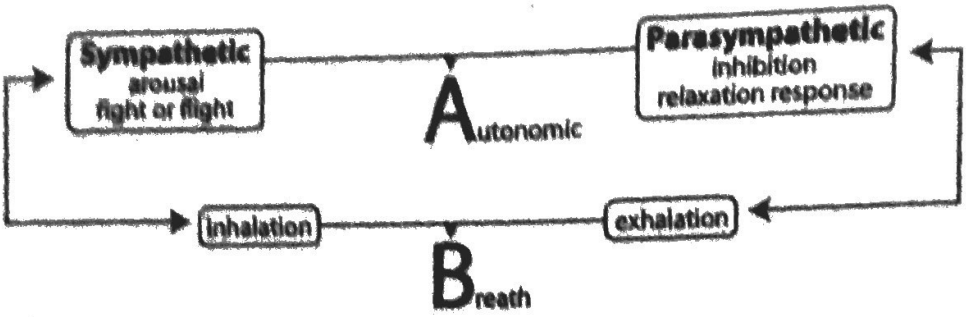

Figure 6.2 Balancing the Autonomic Nervous System

If the in breath is the invigorating part of the breath and the out breath is the relaxing part, you can begin to consider how you could change the breath to suit your needs at any given time. For example, if you are lethargic and tired, but need to work or drive somewhere, you can use breathing that emphasizes the in breath to increase your energy level. If you feel stressed or anxious, you can use relaxing breaths that emphasize the out breath to calm down.

Below are a few mini breathing practices that initially help you to balance out your stress and relaxation responses, and then focus more on either the relaxing or invigorating part of the breath.

"MINI" PRACTICES

For all the minis, the first step is to consciously switch to diaphragmatic breathing; take a few breaths to begin lengthening both your in breaths and out breaths. The first few mini practices emphasize slowly, balancing or evening out the in breath and the out breath, it may take a bit of practice to get the rate of breathing just right for you.

Countdown Breathing

This is a very simple mini. After you have established deep breathing with even in breaths and out breaths, simply count down from ten to zero, using one count for each in breath and out breath. You can also imagine stepping down a step with each breath and becoming calm, yet aware and focused. You can do this just once, or repeat it if you have time or still feel upset.

Riding the Wave of Breath

For this mini, simply visualize a waveform that rises up with each in breath and falls rhythmically with each out breath. As you breathe in, count slowly in your mind from one to four. At the peak of the breath, when your lungs are comfortably full, begin to exhale slowly and count down from four to one. (See figure 6.3.) Try to make the breath flow smoothly and evenly, without any holding, gaps, or jerkiness.

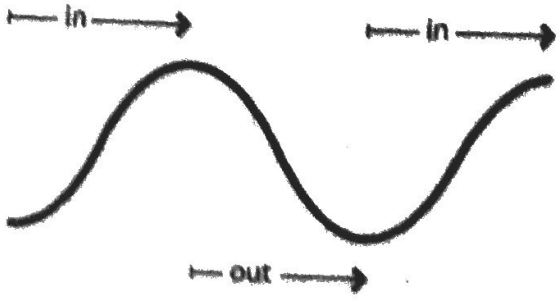

Figure 6.3 Wave Breath

This mini also uses visualization, but in this case the breath takes the form of a square or possibly a rectangle instead of breathing in a smoothly flowing way, up and down like a wave, this time you hold the breath with mostly full or empty lungs, after both the in breath and the out breath. It may feel uncomfortable at first, but one tip is to make sure the lungs aren't totally empty or totally full when you pause; about 80 to 90 percent is good. Then, if it feels too difficult to hold for the same amount of time you breathed in or out, you can cut the time in half.

For example, in figure 6.4 the length of the pause is the same as the length of the breath, but you can also make the pause about half the length of the breath. The key to square breathing is to notice how the breath feels in the periods of stillness, and compare the stillness at the top of the breath, when your lungs are mostly full, to how it feels to pause in stillness when your lungs are emptied. These different feelings lead us into the next two breaths, which emphasize either the arousing or relaxing part of the breath.

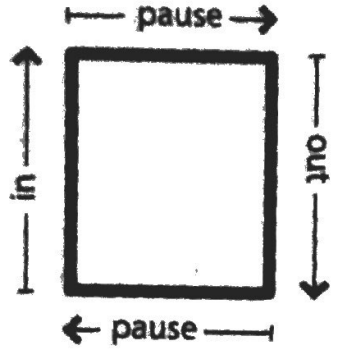

Fig 6.4 Square breath

Relaxing Triangle Breathing

This practice takes into account the feeling of peacefulness and calm many people experience when they pause with mostly empty lungs after the exhalation. We call this a "triangular mini," because the breath follows a triangular pattern, which you can visualize as you breathe.

Simply inhale for a specified count (usually four), then immediately exhale for four counts, and finally hold for another two to four counts, or longer if it feels comfortable. This breath emphasizes the exhalation and therefore stimulates the relaxation response. Most people find this practice to evoke stillness and quiet once they get the hang of it.

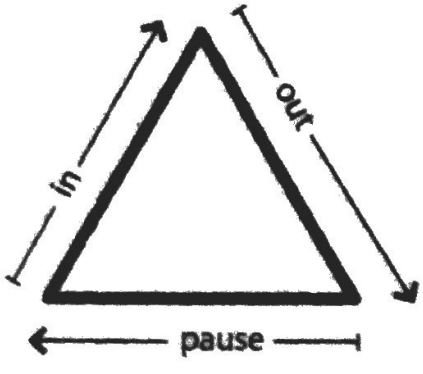

Figure 6.5 Triangle Breath

Invigorating Triangle Breathing

elaxing mini is the arousing mini, which takes the form of an upside-down triangle. Here, the inhalation, which allows energy to build in your body as you hold the breath with ou are tired or feel low energy levels when you need to be active, this type of breathing

angle Breaths

do at any time and result in your feeling more relaxed and in control of the situation, rried. You could do them when you're sitting in traffic (red lights are particularly is); waiting in shopping lines, waiting on hold on the phone, waiting for a phone call, or office (you see the theme here); undergoing blood tests and medical tests; feeling someone says; sitting in the dentist's chair; feeling overwhelmed by what you need to future; being unable to sleep; feeling impatient and tempted to interrupt someone; and h anytime you think about doing a mini is a good time to do one.

al benefits: Minis may help to control the pain you experience during medical help to make the wait seem shorter at the doctor's surgery. Using minis may prevent someone or saying something you would later regret. Most of all, minis diminish the nd feeling upset, frustrated, or impatient; increase your ability to pay attention and world around you; and enhance your overall quality of life.