



Full NEAT (Non-Exercise Activities Thermogenesis) Guide

The NEAT System helps you take control of your body's energy balance by harnessing the movements you make in the course of your daily activities—the way you move your body, for example, or the way you perform everyday tasks at work and at home. To help you keep track of these motions, I've divided NEAT into six categories that represent the movements and postures that typically fill our days. Together, they serve as a training system to help you transform NEAT into an integral Habit of Health.

The six NEAT categories:

- Stance
- Strolling
- Samba
- Standing
- Stairs
- Switch

These six categories cover the full range of muscle energy expenditure in your everyday life (outside of the scheduled exercises that make up EAT, that is). As part of this system, I'll teach you to track each one individually so you can be sure you're doing the most you can to increase your daily calorie burn. We want to make sure, especially in the beginning, that you're targeting behaviors from all six categories.

By making these small changes, you set the foundation for all the movement to come as you ascend the path to optimal health. Soon your NEAT behaviors will become automatic, and you'll never again struggle to burn calories.

NEAT: It's in the Genes

Some people just have naturally high levels of NEAT. It's in their genes! They're more active by nature, and usually thinner as a result. But luckily, environment is more critical than biology when it comes to NEAT, and that's why the NEAT System arms you with the knowledge and techniques to augment your daily motion. When you consciously perform these small movements and activities daily, they soon become second nature, making the Habits of Motion part of your world.



Keeping Track: NEAT Activity Sheets

I know that keeping track of your daily activity can get tedious, but it is helpful—especially in the beginning as you evaluate your current level of motion and begin to make progress. I've made it a bit simpler for you by creating NEAT activity sheets tailored to the six NEAT categories. You'll find these in the appendix, as well as in the companion Your LifeBook and on the website at www.habitsofhealth.com.

It's important to use these tools right off the bat to record your starting point, and to continue using them as your activity increases. But don't worry—within a month of using the NEAT System, you'll internalize your new behaviors and will no longer have to think about them consciously or keep track of each movement. They'll just come naturally! That's when you know you've truly adopted these important Habits of Health.

Now let's find out exactly what we mean by movement as we explore the six NEAT categories—our S's of success!

Start Where You Stand: Silent NEAT

Want to burn sixty extra calories a day without lifting a finger? You can by paying attention to the first two S's.

The first two NEAT categories—stance and standing—may not seem much like movement at all. In fact, they're really just baseline body positions. But if you could put on a pair of electron X-ray glasses and observe your muscles at the microscopic level, you'd be amazed to see that your muscle cells are in continuous motion. At their most microscopic level, your muscles are made up of tiny units called sarcomeres. These tiny sarcomeres expend energy constantly as they slide back and forth, keeping your muscles at just the right tension to do their job. By focusing on your body position and effort, we can put more demand on these muscle fibers, and at the same time improve your overall health.



Stance (Posture)

When the muscles that support your body's core axis—the chest, shoulders, back, legs, and abdominals—are aligned properly, they create balance throughout your body. Focusing on these foundational muscles helps you burn more calories and provides great training for your transition to the EAT exercises to come.

This focus is particularly important when you're sitting—a position we find ourselves in a lot in our automated world, especially at work. Computers, cubicles, meetings, commuting, and the mechanization of manual jobs all reduce our natural mobility, not to mention TVs, app games, remotes, drive-thru fast food (a deadly double whammy!) and cars. As you proceed through the six S's, you'll find some great ways to get up and move, starting by simply reminding yourself to get out of your seat whenever you can. But as this first NEAT category shows, even if you are stuck sitting you can still increase your energy expenditure and enhance your health.

In fact, sitting is one of the best times to work on your posture and core axis alignment. Start by using a proper chair that helps you sit up straight. Now flex your stomach muscles and take deep, slow breaths.

NEAT ideas:

At work: Focus on sitting up straight in meetings. Get up and move around as much as possible, but when you must sit at your desk, try using a balance ball chair, which forces you to use your core muscles for support.

At home: Focus on sitting up straight while watching TV or riding in the car (even better, get up and move any time you can!).

Measuring tools: Stopwatch and NEAT activity sheets.

Evaluation: Measure the minutes per day you spend focusing on core position (stomach in, shoulders back) while sitting, standing, or in motion. Count how many times you get up from a sitting position to move around.

Goal: Add two additional minutes of focus on core position per day.

Target: Thirty minutes of focus on core position per day. Additional target: use balance ball chair all day at work.



Energy expenditure: 1 kcal per minute of core position focus; 10 kcal per hour of balance ball; 1 kcal per instance of intentionally getting up from a sitting position when you would otherwise have continued to sit.

Potential: 60 kcal per day.

NEAT points:* 1 per minute of core position focus; 10 per hour of balance ball; 1 per instance of getting up from sitting.

By making small changes in each of the six NEAT categories, you're making secondary choices that support your primary goal to increase healthy movement.

A Habit of Health: Increasing NEAT by flexing your stomach muscles while you sit up straight body position and effort, we can put more demand on these muscle fibers, and at the same time improve your overall health.

Standing

Merely moving from sitting to standing can substantially increase your energy consumption. When you stand, you begin to use weight-bearing NEAT—and one of the great advantages of weight-bearing NEAT is that the heavier you are, the more calories you expend. It's actually more effective the more you weigh! That's good news, because it means that if you're overweight, you can start off slow and still receive the benefits of increased movement. And although you'll begin to burn fewer calories per minute as you lose weight, you'll easily compensate for that decrease by being in better shape for more activity.

NEAT ideas:

At work: Get out of your chair as much as you can. Stand when talking on the phone, using a mobile phone with an earpiece or a portable headset, even if you have to buy it yourself (remember, you're investing in your health!). Get rid of comfy couches and get a "standing desk." You can buy a standup or Varidesk or a treadmill desk or create one yourself with a cardboard box. Start off slow and do not stand all day or you will regret it. Start with an hour or two and work your way up to half a day. To soften the adjustment you can buy a fatigue mat. Also do not lock your knees and stand still. The great thing is since you can walk away easily you will be more likely to be more active and more creative.

At home: All of the above, plus stand while you prepare meals, wash dishes at the sink, iron clothes, watch TV, and read the paper.

* NEAT points represent energy expended above the amount you would expend resting. 1 NEAT point = 1 kcal.



Measuring tools: Stopwatch and NEAT activity sheets. *Evaluation:* Measure the minutes per day you spend standing. *Goal:* Add ten additional minutes of standing per day.

Target: Two hours of standing per day.

Energy expenditure: 1 kcal per minute of standing.

Potential: 120 kcal per day.

NEAT points: 1 per minute of standing.

Can a “Walk and Work” Desk Cure Obesity? Researchers at the Mayo Clinic think so. In a recent study, Dr. James A. Levine replaced normal desks with workstations attached to a treadmill. By using the treadmills at a slow pace (around one mile per hour) for two to three hours per day, Levine’s obese subjects burned 100 calories an hour. That’s as much as 66 pounds in one year!

Strolling (Walking)

When I talk about walking in terms of NEAT, I’m referring to anything outside of a formal walking program. That includes going to the water cooler, delivering a memo to your boss, or shopping for that new dress at the mall. Remember, the point of NEAT is that it takes place within your normal routines, so it doesn’t require a lot of extra time or effort.

As we get older, we typically take fewer steps per day. After age sixty, most people are down to around 4,500 steps. Our goal is to increase your daily step count to over 10,000, achieved mostly through NEAT and supplemented if necessary through my EAT System walking program. We want to keep you walking right into your nineties and beyond!

NEAT ideas:

At work: Walk around the room when you’re on the phone, walk to work or park your car farther away, talk to co-workers in person rather than by e-mail or phone, have walking meetings, choose the farthest restroom and water cooler, have your lunch (or fueling) in the park, try out a “walk and work” desk.

At home: Take the dog for a walk, meet people face to face rather than shouting from the other room, go to the mall and window shop, park your car as far as is safely possible from your destination, walk on the beach instead of sunbathing, pass on elevators, escalators, and drive-thrus. Get off the couch!



Measuring tools: Pedometer and NEAT activity sheets.

Evaluation: Measure your steps from the time you get out of bed in the morning until you lay down again at night.

Goal: Add 100 additional steps per week.

Target: At least 10,000 steps per day (a mile is about 2,000 steps).

Energy expenditure: As with other weight-bearing activities, the leaner and fitter you are, the fewer calories you expend per step. Your gender also comes into play, as does the pace at which you walk. Use the following chart to help you calculate how many calories you burn walking at a moderate pace (usually around three miles per hour).

Energetic Step Value (ESV)

(Steps required to burn 1 kcal)

BODY MASS INDEX (BMI)	ESV (FEMALE)	ESV (MALE)
18-24.9 HEALTHY	36 STEPS PER KCAL	28 STEPS PER KCAL
25-29.9 OVERWEIGHT	30 STEPS PER KCAL	24 STEPS PER KCAL
30-34.9 CLASS 1 OBESITY	24 STEPS PER KCAL	20 STEPS PER KCAL
35-39.9 CLASS 2 OBESITY	18 STEPS PER KCAL	16 STEPS PER KCAL
OVER 40 CLASS 3 OBESITY	12 STEPS PER KCAL	11 STEPS PER KCAL

Locate your BMI in the left-hand column of the chart to find out how many steps you must take to burn one calorie. This number is your Energetic Step Value (ESV), which you'll use to calculate the total number of NEAT points you earn from walking.



To calculate the calories you burn from walking:

1. Take the number of steps you've added since beginning the program. (let's say 2,000 more steps per day).
2. Locate your correct BMI and gender from the chart above to find your Energetic Step Value (ESV). (Let's say a woman with a BMI of 38, for an ESV of 18 steps per kcal).
3. Divide your steps per day by your ESV ($2,000 \div 18 = 111$) = 111 kcal or 111 NEAT points.

That's the number of calories you're burning each day just through the extra steps you take.

Potential: 100–300 kcal per day.

NEAT points: 1 per kcal burned.

Boost your Motivation! Paint or decorate your office stairwells to make them more attractive for walking.

Stairs

Stairs are a great way to accelerate NEAT. In fact, climbing just one flight of stairs is the equivalent of walking 100 steps. That means that climbing ten flights of stairs gives you the same benefit as half a mile of walking (and there are around 2,000 steps in a mile!)

When you climb stairs, you're actually lifting your total mass against gravity, making this one of the most effective NEAT activities available. Speed isn't critical here, so it's a great activity if you're overweight—and since it's a weight-bearing activity, you burn more calories the heavier you are.

Another great benefit of stairs is that they're readily available. Even when it's raining or cold outside, you can use stairwells where you work or in any multi-story building. Just say no to elevators, and watch your NEAT increase.

Just one note of caution: stair climbing is a moderately intense activity. If you're overweight or relatively inactive, see your physician first, then start slowly and pay close attention to any signs that your body needs to take it easier. The good news is that if you add your NEAT activities in the order I've suggested, you should be fine by the time you begin stair climbing.



NEAT ideas:

At work: Take the stairs instead of the elevator or escalator (especially in bad weather, when you can't walk outside). Use the restroom or water cooler on a different floor. Take a stair break instead of a coffee break.

At home: Walk the stairs at the mall, ballpark or department store.

Measuring tools: NEAT activity sheets.

Evaluation: Record the flights of stairs you climb (up and down) in a day. One flight of stairs is roughly fifteen individual stairs.

Goal: Add one additional flight of stairs per week.

Target: Ten flights of stairs per day.

Energy expenditure: Use the following formula to calculate how many calories you burn per flight of stairs or use the chart below to estimate (remember, each NEAT point equals one calorie).

$.022 \text{ kcal} \times \text{number of pounds you weigh} \times \text{number of flights}$
 (For example, if you weigh 150 pounds and climb 10 flights of stairs per day: $.022 \times 150 \text{ lbs} \times 10 \text{ flights} = 26 \text{ kcal.}$)

Potential: 25–50 kcal/day.

NEAT points: 1 per kcal burned, or estimate from the chart at left.

NEAT Points Per Flight of Stairs

BODY MASS INDEX (BMI)	NEAT POINTS PER FLIGHT (UP AND DOWN)
<25	3
25-30	4
30-35	5
35-40	6
>40	7

NEAT Points per Flight of Stairs. Locate your BMI in the left-hand column to find out how many NEAT points you earn for each flight of stairs you climb.



Samba (Dance)

Here, we're looking at movement generated by your body's natural rhythm. What do I mean by that? Put on a song you like and watch what happens. You might start tapping your pencil or your foot, or even singing at the top of your voice.

There's a term for music's capacity to lift us up this way—it's called ergogenic. An ergogenic aid is anything outside your body that boosts physical or mental performance, either by increasing your capacity to perform, removing psychological constraints to performance, or speeding your recovery after exertion.

For the EAT System activities we'll use music to distract you from discomfort and enhance your performance.

For the purposes of NEAT though, we'll be focusing on music's ability to enhance motion by amplifying brain arousal, a phenomenon that researchers have shown may actually increase the intensity of your activity—and that means you're burning more calories. In my book, whatever gets you moving is a great way to increase NEAT, especially when it's so much fun to do!

NEAT ideas:

At work: Turn on your music on your smartphone—at lunch, go outside, and get in motion.

At home: Use music to augment everything you do on your own, from gardening to cleaning (avoid music in situations where it would prevent you from interacting with others, though, since talking also increases NEAT). Go dancing! Start with ballroom and work your way up to tap dancing, square dancing, and eventually more intense dances such as jitterbugging and hip hop.

Measuring tools: Stopwatch and NEAT activity sheets.

Evaluation: Measure the number of minutes you listen to music per day and the number of hours you dance per week.

Goal: Add ten additional minutes of music per day; work up to an hour or more of dance per week.

Target: Ninety minutes of music per day; one hour of dance per week.

Energy expenditure: 1 kcal per minute of up-tempo music. For dance, use the following formulas to approximate.



Slow to moderate dancing (waltz, foxtrot, slow dancing, samba, tango, mambo, cha-cha): 3 kcal per minute.

Fast to intense dancing (disco, folk, square, line dancing, Irish step dancing, polka, contra, country, ballet, modern, twist, jazz, tap, jitterbug, African): 5 kcal per minute.

Potential: 10 kcal per day for music; 20–30 kcal per day for dance (at an average of one hour of dancing per week).

NEAT points: 30–40 per day.

Stay on track while you're staying with friends or family by asking them to join you on a walking tour or offering to cook a healthy meal.

Switch

Switch means doing things by hand instead of by machine. That includes dishwashers, electric knives, snow blowers, remote controls, computers, and all the other automatic devices that steal from your energy-use account at an ever-growing pace. Your goal is to burn an extra thirty calories per day doing tasks by hand that you previously had machines do for you.

Warning: Do not extend “switch” to movements that can cause repetitive injury or exacerbate current conditions such as tendonitis.

NEAT ideas:

At work: Take notes and sharpen pencils by hand.

At home: Put away the appliances and start doing kitchen and other indoor chores by hand. Take out the garbage, rake leaves, shovel snow, wash your car by hand, and mow your lawn with a hand mower (your neighbors will love the peace and quiet!).

Measuring tools: Stopwatch and NEAT activity sheets.

Evaluation: Record the amount of time you spend performing tasks using manual labor instead of a machine.



Some NEAT Pointers

- To maintain your healthy weight, aim to burn about 200-300 calories a day through NEAT activities.
- Be good to your heart! As you add new NEAT activities or increase your level of effort, keep checking your heart rate, especially if you feel lightheaded or weak. Make sure it's in the 50–60 percent range until you feel comfortable. Once you're on your way to becoming fit, this will no longer be required, except as part of your EAT System program.
- Don't be discouraged if you still have a lot of weight to lose—it can actually work to your advantage. The more you weigh, the more calories you burn with each movement, particularly when it comes to weight-bearing activities such as walking, stair climbing, and dancing. Pretty NEAT, huh?
- Get comfortable with NEAT before you move on to more vigorous exercise. The EAT System exercises you'll learn in the next chapter are ideal for maximizing fitness and creating optimal health, but it's important to take it slow. If you're worried about gaining your weight back, I can assure you that our NEAT System is the great equalizer to a sedentary life!

Goal: Add one or two substituted manual tasks per day.

Target: Ten substituted manual tasks per day.

Energy expenditure: 1 calorie per minor manual task (for example, opening a can using a manual opener); 3 calories per minute for manual chores (for example, raking).

Potential: 40 calories per day.

NEAT points: 1 per minor task; 3 per minute for chores.

Keeping track of your daily activity, how you feel before and after working out, and what keeps you motivated can help you learn what works and what doesn't—so if you should start to plateau, you'll be better able to get yourself out of it and keep moving forward!

Tracking NEAT: Your NEAT Activity Sheets

Now that you know how to evaluate, measure, set goals, and increase NEAT, it's time to put the NEAT System to work to help you keep your daily energy use and intake in perfect balance.



Before You Begin

Before you begin integrating all of these NEAT new activities into your life (once you've been cleared by your doctor, that is), you need to record your starting point. Knowing where you are right now will help you determine which of the six S's are going to give you the biggest boost when it comes to burning extra calories. Remember, we're only looking for 200 additional calories of energy expenditure per day. That's all! NEAT, like all the Habits of Health, doesn't require you to make extreme changes in your lifestyle.

To get a true baseline, you'll need to track your NEAT activity for seven days before implementing any changes. To do this, turn to the NEAT activity sheets located in the appendix. (They're also available in Your LifeBook and on the Web site at www.habitsofhealth.com).

As you'll see, there are three types of NEAT activity sheets:

- NEAT Scoring Sheet
- NEAT Activity Log (daily and weekly)
- NEAT Goal Setter

Just track your NEAT points for the day and week in the NEAT Scoring Sheet and Activity Logs (using your stopwatch and pedometer); you'll enter those figures into the Goal Setter.

Goal Setting for NEAT

Roughly speaking, your goals for this initial stage of your lifetime movement plan are as follows:

- 120 NEAT points per day for the first thirty days.
- 200 NEAT points per day for the second thirty days.

Depending on your current lifestyle and activity level, I suggest you focus on adding one additional activity per day for the first week, then one additional activity in each category starting the second week.

If you're sedentary, have a lot of weight to lose, or have a medical condition, proceed at a pace that's doable, that doesn't overtax you, and is within your physician's guidelines. Remember, we're not in a hurry. Your healthy eating plan is improving your condition daily, and it's just fine for your movement plan to advance at a speed that works for you. If on the other hand you want to go faster and you're already in good shape, go ahead!



Wing it!

If you feel that tracking the NEAT increase is too detailed for you, it's OK to make your life more active in a more impromptu fashion. I want you to have fun and get into perpetual motion.

Get out Your LifeBook and ask yourself how can you make your daily life more dynamic:

- Sit tall
- Stand tall
- Walk tall
- Stretch
- Stand with a book on your head
- Raise your arms over your head
- Walk while on phone meetings
- Walk while attending meetings in person
- Jumping jacks
- Burpees
- Dancing breaks while listening to music
- Park a safe distance and further away from work
- Walk to local stores, bank, etc.
- Use hand basket rather than cart
- Take stairs rather than escalator
- Walk rather than using moving sidewalks



How often?

Any time you think about it. Just say no to machines. Also remember if you get up and move every 20 minutes you dramatically lower your risk of heart disease—especially if you have an all-day desk job.

You can set a timer on your phone, use post-it notes to remind you, or drink a lot of water which will have you getting up more often.

See if you can turn yourself in a perpetual motion machine. Your body's 50 trillion cells need to sense motion in order to optimize your health and to prime your future generations!

