



Adjusting to Shiftwork

Shiftwork refers to any work schedule in which the majority of the work hours are outside the period 8 a.m. to 5 p.m. or requires working different sets of hours over the workweek. There are several problems with adapting to shiftwork. First, working the night shift in particular, or hours that touch upon the night shift (1 a.m. to 7 a.m.), makes it difficult to get adequate sleep. Humans are diurnal by nature, active during the day and asleep at night. The body resists changes to this pattern, but there are sleep strategies that can help the shiftworker to reduce this disruption and get adequate rest. In addition to the sleep disruption, working the evening shift or on weekends limits the time available for socialization and family activities. Workers who must accommodate constant variation in their shift assignments, such as working rotating schedules, face additional problems. Since transit service operates beyond the standard workday hours, there will always be workers who must adjust to working nights and irregular shiftwork schedules.

As you have probably experienced, these work time constraints placed on your personal and sleep schedule require a fair amount of adaptation. The problem is that you may adapt to these work schedules in a way that is harmful to maintaining alertness while on duty. To help prevent this, this tool is designed as a reference list of actions to help you adapt to working shifts.

When to Sleep

Sleep experts report that adults need 8 hours of sleep a day although some individuals are perfectly alert with less while others require more. There are several strategies that the night worker can try to get adequate rest while working nights. The first strategy centers on sleep time anchoring. Setting a specific sleep start time and/or end time will allow you to:

- Better plan your free time around your sleep instead of the other way around.
- Provide an external rhythm or routine for your body to get used to, and thus perhaps make adjustments to take maximum advantage of the provided sleep time.
- Better use the other provided tools, including the Personal Alertness Manager tool, to determine if additional alertness countermeasures are needed while on duty.

A second, related strategy is for you to anchor on sleep duration, regardless of time of day. Specifically, you can determine the amount of sleep you need during the daytime and then try to fit that period somewhere in the day as a continuous whole or in pieces. This strategy is a bit problematic, however, and really should only be used as a fall-back if you cannot anchor your daily sleep times so that you will be getting your full 7- to 8-hour sleep period.

Many night workers actually do employ a split sleep strategy consisting of two sleep periods. This is another strategy. The main or “anchor” sleep period occurs following the shift. The worker returns home at the end of the shift and sleeps for 4 to 5 hours. Then, prior to starting work that night s/he takes a nap for 3 hours. The advantage of this strategy is that the worker does not arrive at work with a large sleep debt. Some night workers prefer to sleep in one longer period when they return from work or in the mid-afternoon when there is a natural tendency to be sleepy. Morning sleep gives the advantage of a free afternoon.

After working for three days on the night shift the body begins to adapt to the inverted sleep schedule. Unfortunately, if night workers revert to a “normal” sleep schedule on non-work days, the body’s adaptation to the adjusted sleep pattern is lost. For this reason, some sleep experts suggest that the worker try to maintain a common “anchor” sleep period on both work and non-work days. Maintaining this “anchor” sleep period minimizes the difficulties in readjusting to the sleep schedule necessitated once the workweek begins again.

There is no one “best” sleep pattern for all shiftworkers. Each individual must determine the scheme that provides the most restful sleep.

When returning to day work and a “normal” sleep schedule, a brief sleep of roughly 2 hours followed by a long nighttime sleep will facilitate returning the body’s biological clock back to its natural pattern.

The following guidelines will help you to tailor your sleep pattern to your work schedule:

- *Anchor your sleep start time, end time and/or duration.*
 - For people *not working night shifts*, plan on:
 - Obtaining 8 hours of sleep each night.

- One continuous sleep period each day without naps or other sleep periods.
- Starting your sleep time prior to 3 a.m. and ending your sleep time prior to 11 a.m.
- For people *working night shifts*, plan on:
 - Trying to get 9 hours sleep per day; calculate that you will need another hour of sleep per day than your day-working counterparts due to less restorative sleep.
 - If possible, waiting to start your main sleep period until you hit your circadian midday dip – around 2 to 3 p.m., and sleep for 9 continuous hours.
 - If unable to wait to sleep or have other time constraints during the day, start your first sleep period as soon after work as possible. Calculate how many more hours you need to equal 9 and try to get those either starting at the midday dip or prior to going to work for the following shift. If you choose this second option remember to leave at least 1 hour between when you wake up and when you are to report to duty.
- *Do not take random naps unless you are really tired.* Unscheduled sleep periods may have an immediate alerting effect but may have negative long-term consequences to the efficiency of your main sleep period.
- *You should follow as closely as possible the same sleep schedule on both work days and days off.* If you work nights, this may not be feasible due to family and social activities. For night workers whose personal schedules allow them to continue their workday sleep pattern on days off *and* who feel their bodies are adjusted to the night work schedule, this is an appropriate sleep strategy. However, most people never completely adapt to working nights and sleeping during the day. This means that you will probably be less fatigued if you return to nighttime sleep on days off.
- *Maintaining your sleep schedule is key.* You should get up at your planned wake-up times, regardless of whether you have the opportunity to sleep longer to maintain the ritual. If you find yourself breaking your plan more than once a week, again, you may want to rethink your anchor times.

- *Seek your family's support in respecting your sleep time.* Remember that it is not just you who must adjust to shift work. Your entire family must adapt. Explain to them that your work schedule will require you to sleep undisturbed at specific times.

When to Eat, What to Eat on Shiftwork

Improper eating is a problem for many Americans, but for a number of reasons it is even more of an issue for the transit shiftworker. Lack of kitchen facilities can make it impractical to bring healthy, home cooked meals to work. Inadequate or poor food vending services can make it difficult to purchase a healthy meal. Perhaps most important, the body processes food differently at different times of the day.

Shiftworkers frequently have bouts of gastrointestinal distress and acid reflux. The lifestyle of a shiftworker lends itself to eating a high fat, nutrient poor diet, which can lead to obesity, heart disease and a general weakening of the immune system. In addition, the timing of food intake is likely to influence your ability to fall asleep or maintain proper wakefulness. The guidelines below are for everyone, though they hold especially true for people working the night shift.

- *Make a nutrition plan.* Planning your meals ahead of time, and when you will eat them will play a large role in how well you will adapt to working shifts. Analyze what you are currently eating and determine its caloric and fat content.
- *Avoid drinking caffeinated beverages for at least 4 hours before sleep.* In fact, you should reduce your use of caffeine as much as possible. Drinking caffeine prior to bedtime leads to two problems, being forced awake due to the caffeine when you want to sleep, and being forced to wake up during the sleep to use the bathroom. This suggestion holds true for planned nap times as well as your main sleep period. On the first two night shifts of the week you may find that you need a caffeinated beverage to get you through the period of reduced alertness in the early morning. Be sure that it is consumed at least 4 hours before a planned sleep period after work.
- *Eat at or before 1 a.m. and after 5 a.m.* Your body has a rhythm for food digestion, which slows down during the late night-early morning hours. If you eat heavy meals during this

time, the food will likely remain undigested for much longer than normal, which may lead to you having gastrointestinal distress or constipation. You are also more likely to convert the food into stored fat.

- *Avoid meals of more than 600 calories as they can induce sleepiness.* Large meals right before or during your work period should be avoided, regardless of your work shift. This is because your body is diverting its resources to digest your food and store it rather than use your reserves to maintain proper body functioning and alertness.
- *Avoid foods high in fat content because they are harder to digest during the night.* It is also more likely that these foods will lead to weight gain if your job is primarily sedentary.
- If you notice big discrepancies in what you eat and what you should eat, and when:
 - Try to plan out (with your family if applicable) your meals right before and during your work period.
 - If you do not pack a lunch, avoid restaurants that serve only fried, fast or greasy food. If you must eat from vending machines, try to avoid foods high in carbohydrates, such as cold cut sandwich meats and chips.

As with the sleep schedule, each individual must determine the eating pattern that along with exercise helps you stay physically fit and does not compromise alertness during nighttime hours.

Social Contact and Activity

Working at non-traditional hours can compromise time available for family and social activities. All family members will have to make adjustments to accommodate your new lifestyle. Therefore it is especially important that you speak with your family and include them when you make decisions about how you allocate your time. These adjustment strategies include:

- *Expect to spend less time with your family and friends.* Your job requires you to sleep enough to perform at an acceptable, alert state when on duty. For this to happen you cannot skimp on your sleep time. Rather, plan times when you will see your friends and daily time for your family so no one feels neglected.

- *Set aside pre-arranged times to spend with family members.* Open blocks of time can easily be filled with chores, hobbies or other activities that do not include the other members of the household. This becomes a problem when it is time for you to sleep and you realize that you have not paid enough attention to those around you, and thus forgo the sleep to spend the time with family or friends. Work with your family to set aside some scheduled time each day to spend with them. In addition, check your calendar to make sure you are aware of all important dates (e.g., birthdays, after school activities, etc.) and plan for them as best you can.
- *Declare the bedroom off-limits to family members during sleep periods.* Except for emergencies and other such urgent times, no one should be allowed to enter the room where you are sleeping. This is your time to yourself and other people must learn to respect this.
- *Start or maintain an exercise regime.* Exercise has many benefits including weight maintenance, improved health, stress reduction and better sleep.
- *Try to find the easiest and quickest commute routes.* This is especially important at the end of a night shift when you are sleepy and tired from work yet still have to negotiate your trip back home. This will also give you more time at home for family, friends or sleep.

Success Story

The Union Pacific Railroad (UP) established a fatigue hotline that employees can use for any questions related to fatigue. UP contracts for this service through the company that handles their employee assistance program. UP's Director Alertness Management met with the company and trained their representatives to respond to employee inquiries. UP has found this to be a satisfactory arrangement.

Reporting for Duty and Managing Service Delivery

In the daily give-and-take between work life and home life even the most conscientious and fastidious employee can find her/himself in a circumstance where s/he is already tired as s/he heads in for work. The toolbox includes techniques that can be employed to help catch fatigue before it becomes a problem on the job. It also provides tools to help determine when fatigue has definitely become a problem for the management of service delivery. Possible tools and strategies in this area include:

- A fatigue hotline where employees can seek counseling and advice.
- A supervisor's process providing techniques for detecting and managing a fatigued employee.