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Contents

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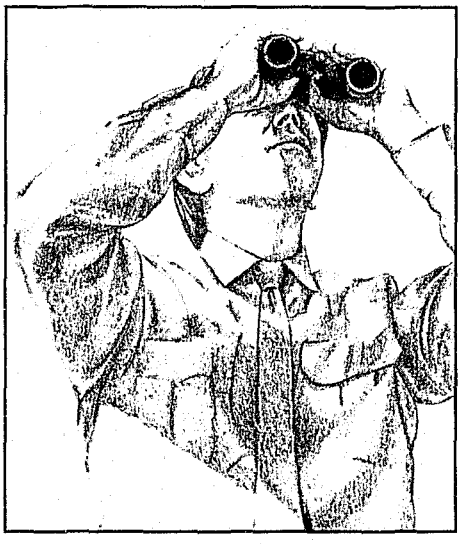
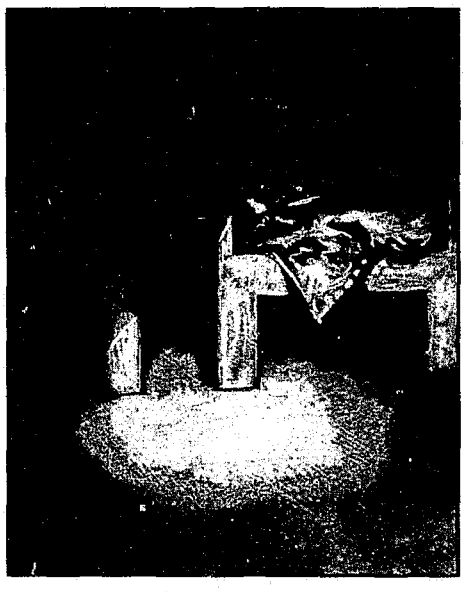




Rebecca Leer

Working the Morning Watch

John A. Mattsen

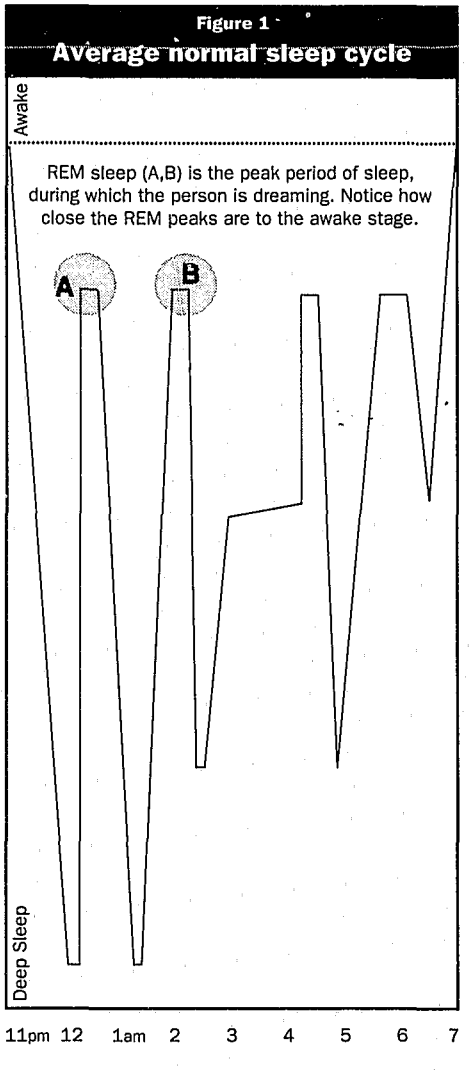
The other day my wife tried to convince me that there are people who prefer to work on the morning watch (12-8 a.m.) and do so without the mental, physical, and emotional stresses so common to most of us. To prove her point she mentioned the husband of a 58-year-old female associate who had worked in a powerhouse for more than 30 years, all on the morning watch and supposedly loving every minute of it. She went on to explain that he was now retired, and I couldn't help but wonder if he was still living on the morning watch.

Morning watch isn't something you just do, it's something you learn to do, and to some extent it involves trial and error. If this is so, then how do we teach new employees how to adapt to morning watch hours? All too often it is learned informally from other officers who propose such strategies as "drink a lot of coffee to stay awake" and "turn on a fan in your bedroom to go to sleep." In fact, these ideas may be poor advice.

Beyond the need to stay awake and alert to perform well on the job, knowledge about sleep patterns (later I will discuss something called the "circadian rhythm") is essential for optimum morning watch supervision of inmates. Many officers seem to believe that because most inmates are asleep, their job entails little more than being available in the event that something goes wrong. This is a dangerous misconception.

Sleep cycles

Figure 1 represents an average normal sleep cycle for a young adult. You'll notice that about 45 minutes into the



pattern, the person experiences his/her deepest sleep. When officers become "sleep stressed" (haven't had good sleep for days), they can achieve deep sleep in a matter of minutes (the line to the first deep sleep cycle would become nearly vertical).

Note the peaks of the graph—the periods during which the sleeping person is nearest to an awake state—(A) 12:45 a.m., (B) 2:15 a.m., and so on. Sleeping associated with these peak periods is called "REM (Rapid Eye Movement) sleep," during which the person is dreaming. It is difficult to measure the effects of losing REM sleep because one type of sleep may partially take over the functions of another. In some experiments, however, subjects who were deprived of their REM sleep showed increased aggressiveness and irritability, and seemed to have difficulty keeping their impulses under control. In contrast, subjects who failed to obtain sufficient deep sleep for even one night suffered from feelings of lethargy (low energy).

Notice how close the REM sleep cycles are to the threshold line (awake/asleep). While it may be very difficult to wake an inmate from a deep sleep cycle, it is relatively easy to wake the person during REM sleep. If the officer fails to properly control the sleep environment—light, noise, movement, and temperature—inmates will not get enough REM sleep. In other words, the morning watch officer is not just a night watchman in a warehouse.

Within the context of a low security institution, let's take a look at how this applies to the operation of a unit on the morning watch and the consequences of failing to control the sleep environment. Refer to the floor plan diagram on page 32 as needed.

In this scenario the officer leaves the lights on in the TV rooms, hallways, toilet area, and washroom. Already, we have light shining into the first cubicles.

There are two kinds of inmates in the TV rooms: watchers and talkers. When the talkers yell back and forth the watchers turn up the volume, causing the talkers to talk louder, and so on. With the doors to the living area (by the shower) closed, we now have considerable light and some noise in the first cubicles.

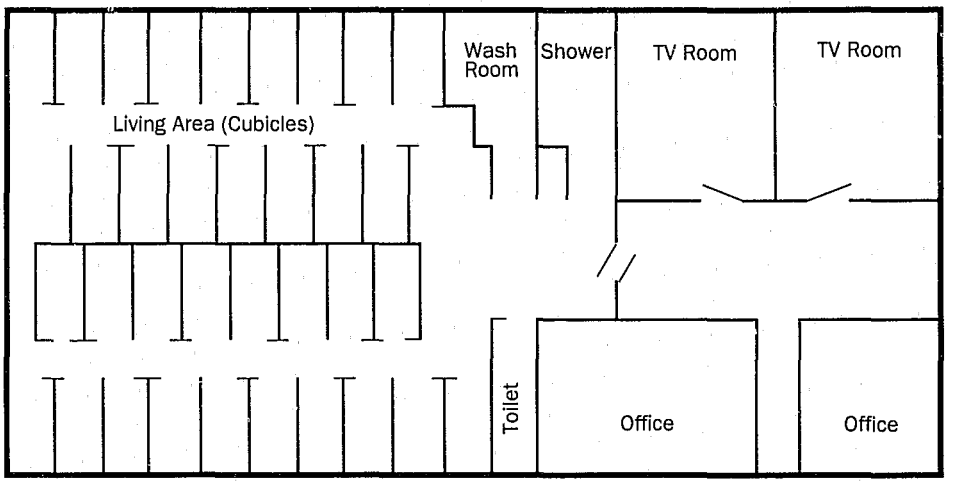
Inmates Smith and Jones leave the TV room talking loudly, treating the hallways as if they were an extension of the TV room. When they reach the washroom, they exchange loud greetings with inmate Williams, who is brushing his teeth. Smith and Jones proceed down the aisles of the cubicle area, talking loudly until they reach their respective cubicles.

Some of this behavior is clearly intimidation of the inmates who are asleep—a way for Smith and Jones to assert dominance. Every time they engage in this type of behavior they gain power, and every time the night watcher fails to take action he/she loses power and respect. Failure to take action in this scenario will result in the loss of sleep for many inmates in the unit.

The inmates react in a variety of ways. Some return to normal sleep as if nothing had happened. Some will lay awake, anxious and hostile, for 30-60 minutes before assuming an irregular sleep pattern. Some will give up and go watch TV.

This cycle of light, noise, and movement results in a number of inmates achieving sleep cycles similar to the patterns in *Figure* 2. The solid line represents an inmate who is successful (A) in achieving the first deep sleep cycle, but is awakened by noise (B) as he approaches the first REM sleep. He views this interruption only as an irritation, and is successful in again achieving deep sleep (C), though not as deep as if he hadn't been interrupted.

On the way to the second REM sleep (D) he is awakened by Smith and Jones, triggering anxiety and hostility that affects sleep patterns for the rest of the night. At 7 a.m. he is awakened (E) from deep sleep by a fellow inmate who is concerned that he'll be late for work. (One can only speculate how this affects the number of sick calls and chronic medical complaints.)



Floor plan

The broken line in Figure 2 represents an inmate we're all familiar with. He goes to bed for about an hour, gets up complaining that he can't get to sleep, and returns to bed (F) about 6 a.m., when the lights are turned on. He then drops into a deep sleep cycle (G) until he is awakened at 7:30 a.m., late for work.

There are a number of reasons for a sleep pattern such as this, including prescribed medication, drugs, a previous lifestyle, or fear. The relevant point here is the officer's failure to control the sleep environment.

Whatever the reason, we should ask ourselves: What happens to someone who experiences these irregular patterns night after night? No surprise—job performance will drop off, he'll feel irritable all the time, and eventually he's going to ventilate. He may well wind up in Segregation, where he'll have plenty of time to catch up on his sleep before the cycle starts all over again.

Controlling the sleep environment

Morning watch officers can employ various measures to ensure a proper sleep environment. The behavior of inmates Smith and Jones must be realistically viewed as a serious problem, hampering the secure and orderly running of the institution. (The hypothetical situation discussed here does not, of course, invalidate security procedures in place at any given institution; nor should the reader infer that these observations invalidate particular current policies.)

■ ***Light and sound.***
It is essential that the officer control the lighting, not only because excess light has the potential to wake the inmates from REM sleep, but because light breeds noise. Light encouraged the presence of inmate Williams in the washroom, as well as the exchange among Williams, Smith, and Jones. The lighting patterns failed to provide a psychological barrier that defined noise as being unacceptable. Darkness must imply silence to inmates; once this is established, darkness will come to equal

something else—privacy. More inmates will spend less time in the TV rooms and will instead engage in quiet activities in their cubicles (such as reading or letter writing). From here, they are just one step away from a good night's sleep.

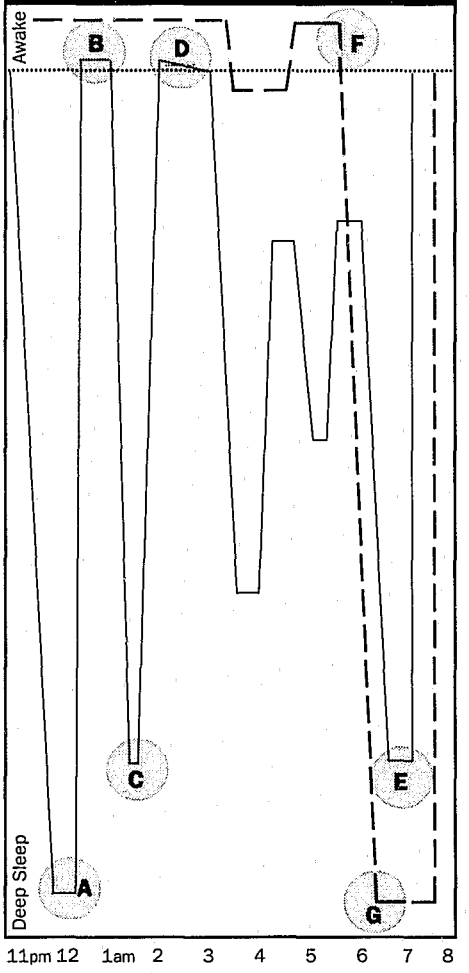
Controlling light is not just a matter of ensuring that sleep areas are dark. The security concerns of a correctional environment require a more sophisticated approach. Return to the diagram, and let's turn out all the lights in the unit except in the TV rooms and the hallway just outside the offices. This would appear to be a perfect solution—darkness in the sleep areas with a closed door (by the shower) to act as a physical and psychological barrier beyond which noise is unacceptable. However, this solution has problems.

At 4 a.m., when all the inmates have gone to bed and the officer is standing in the hall across from the TV rooms, the only person he is supervising is himself. Light from the hall against the glass in the doors by the shower creates an impenetrable mirror so effective that the officer is unable to detect the movement of an inmate into the shower. Furthermore, the officer is essentially standing under a spotlight that eliminates the need for the inmates to establish a "jigger."

If a serious incident should occur in the cubicle area, the officer's eyes may not have had time to adjust to the darkness when he arrives at the scene. Of course, the inmates' eyes will be well adjusted.

When Smith and Jones leave the television room, they pass through the hall doors by the shower as if they were an extension of the lighted hallway and won't quiet down until they reach the washroom. That's too late; the inmates in

Figure 2
Two interrupted sleep cycles



the first cubicles need a good night's sleep as much as anyone else.

The officer might achieve better results by turning the lights on in the TV rooms, toilet areas, and maybe the shower. Light from the TV rooms is adequate for the hallway. Light in the toilet area spotlights a potential problem area, adequately lights the hall and washroom areas, and provides enough light on the back side of the glass in the doors by the shower to enable the officer to clearly see through to the back wall of the living area. The cubicle area is lit indirectly from outside security lights.

When Smith and Jones leave the TV room talking at high volume, the message of darkness and silence begins at the TV room door. The officer's eyes are adjusted to dim light; if more light is needed the officer has a flashlight. Contrary to some correctional thinking, under some conditions more light does not necessarily equal more security.

■ ***Temperature control.***
Body temperature drops a couple of degrees during sleep (or tries to). A trick of the officer's trade is to turn up the heat so the inmates will uncover, thereby making it easier to see flesh for the count. In the long run it turns out not to be so clever. Physical discomfort (stress) during REM sleep will induce tossing and turning, which in many cases will cause the inmate to wake up, and in others will cause a reduction in REM sleep.

■ ***Snoring.***
Snoring can be a major problem not only for the snorer but for anyone in the vicinity. The solution is to stop the snoring—easier said than done, but in some severe cases there is a way to do it.

More severe cases of loud snoring may well be symptoms of a potentially fatal sleep disorder called "sleep apnea." It is most common in males over 50, who are overweight and have a short neck. As they fall asleep the muscles in the throat collapse and block the airway, causing the person to stop breathing for several seconds to a minute or more. Then they suddenly gasp for air, but because the throat is relaxed and collapsed the air passes through the nostrils—loudly. This causes the person to awake and is often accompanied by thrashing. In severe cases this can happen hundreds of times a

night and can produce a dangerous heart arrhythmia.*

■ ***Making frequent rounds.***
Inmates who suffer from anxiety tend to have difficulty achieving deep sleep and tend to wake more often than they should. Frequent rounds instill a sense of security, and allow the inmate suffering from anxiety to believe that the environment is safe enough for sleep.

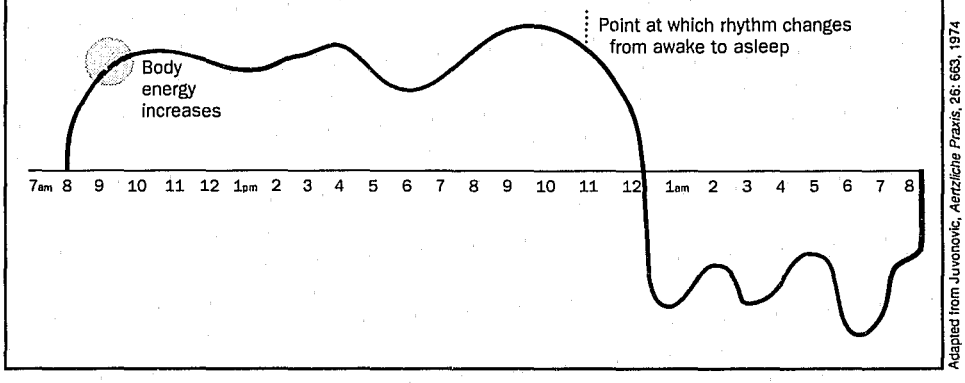
Once you've established a good environment, go after the details. Deal with noisy staff who enter your territory and disturb the environment you've created. Adjust the door closers so that doors don't make noise. Have maintenance staff take the squeaks and groans out of air handler systems.

Achieving deep sleep cycles is never more important than basic security considerations. The inmate who doesn't want his sleep disturbed always has the choice of leaving some skin exposed for the count.

The circadian rhythm

Staff who work the morning watch may experience problems with sleep that are considerably more challenging than those typically faced by inmates. Controlling the sleep environment during the day when the rest of the world is awake, active, and noisy is difficult. It requires controlling disturbances that include jackhammers, chainsaws, telephones, sirens, barking dogs, lawn mowers, small children who don't seem to comprehend Bureau policy no matter how often you explain it to them, and teenagers who disregard it as a matter of convenience.

Figure 3
Typical circadian rhythm for "night person" (owl)



Adapted from Juvonovic, *Aertzliche Praxis*, 26: 663, 1974

None of these obstacles are as evasive, unknown, and (for some) powerful as the great circadian rhythm. The circadian rhythm is a "biological clock" that is set at birth and is based upon a 24-hour cycle (or circle) of voluntary and involuntary physiological functions and events. In other words, your body is programmed to do the same things at the same time and in the same order every 24-hour day. This includes voluntary actions like eating and sleeping and involuntary actions like the organic secretion of hormones. By age 25, the body has been trained in the basic pattern almost 10,000 times.

At about 50 years of age, the circadian rhythm changes. As people grow older they tend to nap more frequently and wake up more often during the night. Thus a 50-year-old officer who has spent years as a morning watch worker and has adjusted fairly well suddenly finds himself having difficulty, despite a better sleep environment and no children at home.

Figure 3 represents a typical circadian rhythm for a "night person" (owl) and *Figure 4* is a typical rhythm for a "morning person" (lark). Eighty percent of the population are neither extreme larks nor extreme owls, but viewing sleep problems from the extreme perspectives allows us to better understand our own rhythm and its effect on our ability to achieve proper sleep for the morning watch.

Through trial and error, staff who work the morning watch develop coping strategies that allow considerable flexibility in their sleep patterns, but are extremely specific to each individual. What they have done without knowing it is to become acutely aware of their own circadian rhythms.

Most coping strategies appear to include one principle and two patterns. The principle is that it's important to sleep in the evening just before you go to work so that you at least start out wide awake and alert.

If a little sleep is good, is a lot of sleep automatically better? One pattern is to force yourself to stay awake until 2 or 3

*A simple machine is available that (when used under proper security procedures) can eliminate the major problems associated with sleep apnea—a small, very low pressure pump connected to the user by a hose and a nose mask that provides positive air pressure through the nostrils. Further information on these machines is available from your local sleep disorders clinic or from the American Sleep Disorders Association, Rochester, Minnesota.

in the afternoon, then sleep 7 or 8 hours just before going to work. Let's take a look at how this fits with the circadian rhythms in Figures 3 and 4.

Assuming no extraneous factors such as caffeine consumption, by 2 or 3 p.m. you'll be so tired that falling asleep will be no problem. But if you're an owl *(Figure 3)*, where is your circadian rhythm? It's high, and so in 3-4 hours the power of the rhythm coupled with any disturbance causes you to wake up. Where is your rhythm at 6 p.m.? It's high and headed for the highest peak of the day. So you toss and turn until it's time to go to work, and on your arrival you've had only 4 hours of sleep in the previous 24 (and by morning, when it's time to drive home, you'll have had only 4 in 32—the psychological equivalent of driving drunk).

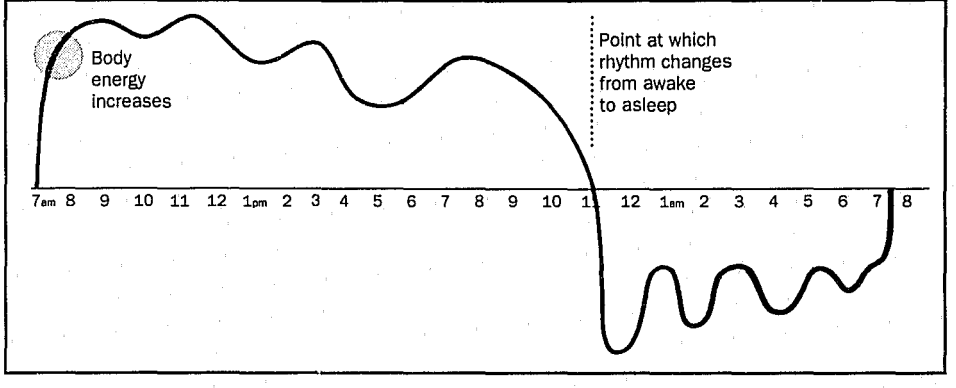
Forcing yourself to stay awake all day presents additional hazards. What are you going to do in this stupefied condition? Operate a chain saw? Make financial decisions?

The second pattern is to sleep when you get home from work in the morning for 3-4 hours, get up, and then sleep another 3-4 hours just before going to work again. Let's see how this pattern fits the circadian rhythm of a lark (Figure 4). At 9 a.m., your rhythm is high and on the way to the highest peak of the day. You're so sleep-stressed that falling asleep will be no problem, but sleeping more than 3-4 hours will be difficult due to the circadian rhythm.

So you get up and wander around feeling lethargic until 6 p.m. Trying to sleep at 6 is easier for a lark than an owl, but if extraneous factors—anxiety, caffeine, domestic problems—interfere with sleep

Figure 4

Typical circadian rhythm for "morning person" (lark)



at 6, you will arrive at work with only 3 hours of sleep, and those 3 hours were 12 hours before going to work.

Obviously no one pattern works for everyone. The human body is like an orchestra and the circadian rhythm is the conductor. Working the morning watch is like adding a second conductor who attempts to make the orchestra play a different tune—but only for 5 days of the week. The resulting confusion and noise are all too often forgotten by those who have returned to the rhythm of the day watch.

Exercise

Employees who engage in a regular exercise program for aerobic fitness will find that the morning watch may present some discouraging obstacles, particularly if part of their healthier lifestyle also includes the elimination of caffeine from their diet. People who achieve a reasonable level of aerobic fitness have bodies that require exercise. People who work the morning watch usually end up with bodies that need rest.

Aerobic exercise raises adrenaline, and when the body comes to rest the adrenaline continues at an elevated level until the body eventually produces enough endorphins to bring it back down. The endorphins affect the opiate receptors in the brain and are a more powerful anesthetic than opium. When your body is running high on adrenaline, achieving deep sleep is very difficult; after intense aerobic exercise it can take hours for the endorphins to overcome the effects of high adrenaline.

If improperly timed with the circadian rhythm, the combination of adrenaline followed by endorphin can develop a one-two punch that is capable of knocking you out. If, for example, a person engages in strenuous exercise for 2 hours prior to going to bed at 10 p.m., the combination of a night person's rhythm and adrenaline will certainly prevent deep sleep and possibly prevent any sleep at all. By midnight, when this person starts work, he or she is sleep-stressed, physically stressed, has a circadian rhythm that says "sleep," and a high level of endorphins. I've been here before, and by 3 a.m. was so fatigued that I've fallen to the floor because I fell asleep while walking. It was ignorance, not irresponsibility!

This raises interesting questions about some BOP operations. When a supervisor discovers an employee sound asleep on

the job, does the act represent dereliction of duty or a lack of understanding of sleep cycles? Is this an example of a lack of proper training? What if that employee had recently experienced the loss of a loved one—a stressful situation that typically disrupts sleeping patterns? What about a new employee, already strained by his/her need to demonstrate competence in a stressful environment? Chances are these individuals will not be able to sleep when they should and will when they shouldn't.

I certainly don't mean to suggest that sleeping on the job is ever acceptable, but there may be more involved than a disciplinary problem.

Caffeine

Caffeine is chemically related to amphetamines. Caffeine's ability to increase mental alertness and reaction time for sleep-stressed individuals is both well known and well documented, as are the undesirable side effects of the drug. Less well known are some facts about caffeine that have a profound effect on one's ability to stay alert on the morning watch and to sleep during the day when the circadian rhythm is at its highest levels.

Caffeine continues to affect mental functioning for as long as 20 hours after it is ingested. Research confirms that caffeine interferes with sleep. Countless cases of insomnia have been cured by simply (or not so simply) eliminating caffeine from the diet. Most employees who work the morning watch will not view this as realistic. They point out that "getting good sleep" during the day is only half the problem; staying alert necessitates the use of caffeine.

Most sleep experts suggest that if you must consume caffeine and are experiencing difficulty with sleep, you should avoid it for 6-8 hours prior to retiring.

Caffeine doesn't start working fully until 1-3 hours after it is consumed... but continues to affect mental functioning for as long as 20 hours after it is ingested.

Experienced employees will not accept the idea that they should not drink coffee after 1 a.m., because they know all too well that sometime during the night, usually between 3 and 4 a.m., they experience a period of fatigue where it is extremely difficult to stay alert.

However, caffeine doesn't start working fully until 1-3 hours after it is consumed. Typically, officers wait until they are really fatigued at 3:30 a.m. to drink a cup of coffee. By 4, they discover that the first cup didn't do the trick and have a second or third. By 5 they start feeling pretty good, but 5 is only 4 hours away from when they'll try to go to sleep. Caffeine is also a diuretic, and so increases the odds that the user will experience physical discomfort during REM sleep.

A much wiser use of caffeine might be to anticipate this period of fatigue and then consume caffeine 2 hours in advance. If it occurs at 3 a.m., drink coffee at 1 a.m.—8 hours in advance of sleep.

Putting it all together

The old adage "ignorance is bliss" obviously originated with someone who never worked the morning watch. Misery is the consequence of ignorance about the subject of sleep. To demonstrate the actual application of the information presented in this article, let's take a look at a worst-case scenario and then at a scenario that uses the information I've presented.

Worst case. After drinking several cups of coffee on the morning watch, the officer arrives home at 8:30 a.m. and eats breakfast, which includes a cup of coffee. He fills a Thermos with coffee and heads out to cut firewood. (Note: excess caffeine in conjunction with elevated heart rates can cause a dangerous arrhythmia.) The officer plans to sleep from 4-10 p.m., so he stops drinking coffee at noon. He arrives home fatigued and is in bed by 4, confident that sleep will be no problem.

With the circadian rhythm, adrenaline, and caffeine levels high, he fails to get to sleep until 10 p.m., when his circadian rhythm is coming down, endorphins are high, adrenaline is down, and the coffee is wearing off. So at 10 p.m. he crashes into deep sleep, and at 10:15 his wife wakes him up for work. He feels far worse than if he had never slept at all. He'd call in sick but it's too late. It doesn't get any worse than this.

Best case. After a morning watch without caffeine, the officer arrives home at 8:30 a.m. and has a light breakfast. She's a

Sleep machines

Sleep machines (a.k.a. sound conditioners or white noise generators) work so well that there shouldn't be a staff training office in the Bureau that doesn't have one for employees to try. There are two different types: an electromechanical device (cost: under $50) that produces a sound similar to rushing air, and a solid state device (cost: $100-150) that simulates the sound of rain, surf, or a waterfall. They're available from MARPAC Corporation, 2907 Blue Clay Road, P.O. Box 3098, Wilmington, NC 28406; 919-763-7861.

These machines do three things. They produce a variety of low frequency sounds that mask irritating noises such as a dripping faucet. They smooth out sharp, unexpected sounds that would otherwise wake you up during REM sleep when you're near the awake/asleep threshold. And the even, low frequency sound of the machine becomes a point of mental focus. For many people, shutting the machine off during sleep is as effective as an alarm clock.

In addition to the written instructions, I offer the following advice:

- Don't underestimate the machine! Make certain you have adequate means for waking up when you should.
- Make sure you have a properly working smoke detector in the bedroom. The machine could mask out the sound of a detector in another room.
- The sound of rushing air produced by heating and cooling air handler units in most institutions is very similar to the sound produced by the sleep machine. It is conceivable that a person could come to associate the sound of rushing air with sleep to the point that an air handler unit could actually induce sleep. I suggest you use the machine only when working the morning watch.
- The machine should be placed away from your head, between you and the dominant source of noise.

Fans may also act as sound conditioners, but if the temperature drops as you sleep a fan can cause chills. In addition, studies show a correlation between pneumonia and humid air movement during sleep.

—*J.M.*

morning person, and her circadian rhythm is rising to its highest peak. She exercises from 9 a.m. to 10:30, which increases adrenaline.

By 3 p.m. the adrenaline is down, the endorphins are up, she's sleep-stressed (and therefore primed for a plunge into a deep sleep cycle), physically stressed, and the circadian rhythm is on the way down. Her sleep environment is properly controlled and she turns on the sleep machine (see sidebar). It doesn't get any better than this, at least not if you're working morning watch. After 7 hours of deep and restful sleep she reports to work in prime condition. At 1 a.m. she drinks two cups of coffee to get through the anticipated 3 a.m. slump.

Conclusion

In Europe, many companies are switching to "rapid rotating" work schedules, commonly referred to as the "Continental Rotation" (2 days, 2 evenings, 2 mornings, and then 2 days off.) This rotation allows the circadian rhythm to maintain its daytime orientation.

While this sort of scheduling is not on the immediate horizon for the Bureau of Prisons, we can begin to train staff about the circadian rhythm, sleep patterns, and coping strategies for shift work. These subjects have an important bearing on inmate management, stress management, disciplinary actions, and the interpersonal relations of staff. Correctional workers have everything to gain by such training and much to lose by leaving this subject in the dark. ■

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