

Shift Work Sleep Disorder

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Shift work is hard on the body especially when you are working nights and trying to sleep during the day. This is because your body wants to be asleep when you are trying to be awake, and your body wants to be awake when you are trying to sleep. Your biological clock can shift at the rate of about an hour per day so theoretically it would take your body 12 days to shift 12 hours. If you are performing a typical shift rotation of two days, two nights followed by 4 days off, your biological clock never gets a chance to shift.

When you first start performing shift work you will typically be able to sleep fairly well at night when your workdays or are off work. Initially you may even be able to sleep not too bad during the day because you are exhausted after staying up all night during a night shift. However, over time, it may get harder to get your body to sleep enough during the day.

In general, we have our greatest propensity to get deep, restorative sleep during the first half of the night and to a lesser extent during the mid afternoon based on our biological rhythm. Thus, even if you can get your usual 7 - 9 hours of sleep during the day, it does not usually feel as restorative compared to sleeping at night.

Shift workers typically have things to do during the day such as shopping, appointments, picking up children after school, etc. Thus, they often do not have enough time to sleep during the day even if their bodies will let them.

Shift workers typically end up sleeping an average of about 6 hours per day due to a combination of reduced time to sleep and reduced ability to sleep. The less sleep you get, the more you must push yourself to get through your day. The more you must push yourself, the more "adrenalin" you live on. At the end of the day that adrenalin "hangover" makes it harder to fall asleep which starts to contribute to insomnia. Even after you fall asleep, your body may remain in "fight or flight" mode making it more difficult to stay asleep or sleep deeply. This further contributes to reduced sleep quality and insomnia.

When we look at shift workers, there seems to be some that do not tolerate it for

exceptionally long at all and must change jobs fairly early in their career. There are others that seem to tolerate it better. It turns out that “night owls” or workers with a tendency to a delayed sleep phase seem to tolerate shift work better. They tend not to mind as much staying up later to work. They already tend to sleep later in the morning so may find it easier to go to sleep in the morning after a night shift. However, no matter who you are, shift work generally tends to mess up your sleep quality over a career.

Diagnosis

Diagnosis of Shift Work Sleep Disorder is made by a history of insomnia and or excessive sleepiness associated with reduced sleep quantity and a work schedule that overlaps the usual sleep time.

Management

Because your biological clock can only change at a rate of an hour per day, a shift worker can never really normalize their sleep. However, they can try to minimize the impact the work schedule has on their sleep by following these basic recommendations:

1. **Create a cool, dark, quiet sleep environment to optimize your daytime sleep.** It is important that windows are blacked out from light. An air conditioner in the summer keeps the temperature comfortable. A fan helps to create white noise that masks outside noise during the day. Ear plugs may also be helpful.
2. **Protect your daytime sleep.** Just because you are home during the day does not necessarily mean you should be doing the shopping or picking up the kids after school. You would not wake up your spouse at 2 am to go shopping so they should not expect you to get up at 2 pm to go shopping either.
3. **Use your days off to catch up on your sleep.** Yes, you can catch up on sleep. You may not catch-up hour per hour. Sleep is when you heal, recover from day-to-day wear and tear and recharge your energy levels. This you can catch up on with extra sleep. Just because you have 4 days off (for example) in a row does not mean you should take on a second job!

In addition to the above basic recommendations, judicious use of light and sunglasses may help as well. Bright light consisting of 5000 lux for 4 hours or 3000 lux for 6 hours starting in the evening of the night shift followed by wearing sunglasses on the way home from work to induce a delayed sleep phase, generally seems to work the best. Because most shift work involves rapidly rotating schedules, it is not appropriate to try to completely change the biological clock with each shift change. It is best just to remain with a delayed sleep phase. This seems to allow you to maintain a basic good sleep during the night when you are working during the day. It also helps you tolerate working at night better and you are still able to sleep reasonably well during the day after a night shift.

For those with persistent insomnia despite the above recommendations, there are a couple of options. If your insomnia is mainly when you try to sleep during the day, you may consider using a sleeping pill such as Zopiclone which works quick but is worn off in 6 or 7 hours.

If you are having trouble with insomnia both sleeping at night and sleeping during the day, then you can follow the *Online Insomnia Management Program* or get a referral to a sleep

disorders clinic. Sometimes even this is not enough. This is primarily because at this point the insomnia has become conditioned. In order to change conditioning, you need to be consistent and a rotating shift schedule prevents that. Thus, it may be necessary to have your physician request from your employer a 3 to 6-month period of steady day shifts so that you can create a regular nighttime sleep schedule. You could also make this work with working steady nights if you are willing to create a regular day time sleep schedule where you sleep only days even on days off.