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Sleep-deprived nation

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People are getting on average two hours' less sleep than they were 20 years ago.

METHOUGHT I heard a voice cry 'Sleep no more! Macbeth does murder sleep', the innocent sleep, Sleep that knits up theravell'd sleeve of care, The death of each day's life, sore labour's bath, Balm of hurt minds, great nature's second course, Chief nourisher in life's feast. - Macbeth (Act 2, Scene 2)

MACBETH is not alone here. Many of us have more in common with Shakespeare's mad murderous Scottish king these days than we might think. We are killing our sleep, and that is making us ill.

Studies show consistent sleep deprivation can cause more than the expected fatigue, moodiness and poor concentration and memory. It can also lead to diabetes, obesity, depression and other mental health issues.

Research conducted by the Appleton Institute in Adelaide found that a driver who has been awake for 21 consecutive hours has the reaction time of a person over the legal alcohol limit.

Sleep deprivation also depresses the immune system -- immune cells have their peak activity at night -- exposing poor sleepers to a greater risk of infection.

So widespread is the incidence of sleep deprivation in our time that scientists have begun to study it specifically.

A recent US study found that sleep deprivation is a modern plague; people are getting on average two hours' less sleep a night than they were 20 years ago.

That doesn't surprise Dr Shona Halson, who is the head of the Australian Institute of Sport recovery centre. In the course of her research into post-exercise recovery for athletes she has delved ever deeper into the impact of sleep on performance, for athletes and for ordinary people.

For all the attention paid to ice baths, stretching, diet and all the other modern methods of recovery employed by elite athletes, she says nothing does the job as well as sleep, and that applies to everyone.

"If we are not getting sleep right, we are missing the boat," she says. "It's very difficult to perform if you don't sleep right.

"There are lots of effects of sleep deprivation. It ranges from cognitive and mental factors to physiological and health factors.

"The health risks include the risk of diabetes and obesity because people who are sleep-deprived have a reduced ability to metabolise glucose and it also affects the hormones that tell us if we are hungry or full.

"You are more likely to consume carbohydrates and fats and the longer you are awake, the more you eat."

Halson teaches athletes how to improve their sleeping patterns without resorting to medication. She says it comes down to good "sleep hygiene", establishing a routine that prepares the body for sleep.

"Some of the things we talk about are sleeping in a cool, dark, quiet room (19-20 degrees) and going to bed and waking up at the same time each day," she says.

Halson believes the modern habit of being constantly plugged in to technology -- smartphones, tablets, games consoles -- is one of the biggest influences on poor sleeping habits.

"Technology is detrimental because of the light from the backlit screens. Your body clock is linked to your eyes, so if you have this bright light in your eyes just before you are going to sleep you are telling your body it's day time.

"That's one of the biggest reasons people have problems sleeping.

"This society has a bit of a fear of missing out, so everyone feels they have to be on line all the time."

Halson also lists "napping inappropriately" -- either too long or too late -- as a no-no if your aim is a good night's sleep. But she does believe naps, particularly on the weekend, can help people to "catch up" if they have slept poorly during the week.

"It helps but it doesn't entirely make up for good sleep every night. The body likes to know what it's in for; it likes to set a pattern."

Halson advises parents of teenagers not to worry if their kids are sleeping until noon. "Adolescents experience a shift in their body clocks and they are more likely to fall asleep naturally at midnight or 1am, but we want them to go to bed early when they are not being biologically driven to that. They

are at the point where they need a lot of sleep -- nine or 10 hours -- because they are mentally developing, but if you go to bed at midnight you aren't going to get that if you have to be up for school. No wonder they are grumpy.

"There's an association between sleep and depression and mental health so it's important to give them opportunities to nap and catch up on weekends.

"A lot of countries have changed school hours with success to account for this."

Psychological stress is the other great sleep thief. Halson, who ran the Australian Olympic team's recovery centre in London last year, says sleep was one of the major issues for athletes when they faced competition stress.

Former AIS sports psychologist Ruth Anderson was appointed specifically to the Olympic team's recovery centre last year in recognition that both physical and psychological factors affect sleep and recovery.

She equates the anxiety experienced by Olympic athletes with that experienced by ordinary people ahead of a big work presentation or an exam.

"One of the most common causes is general stress -- the inability to cope with the stresses of daily life," she says.

"People go to bed and find it hard to stop their minds playing the same thoughts over and over because they are feeling overwhelmed by the demands of their lives.

"Anxiety excites the nervous system and your brain sends signals to the adrenal gland to make you more alert.

"For elite athletes the stresser is sport performance, but it's completely transferrable to the general population and whatever issue you feel overwhelmed by. If there's an issue you haven't managed during the day it's likely to bother you at night.

"We all try to avoid these things at times, but they always come back later. If you are not assertive about your concerns and worries they may interrupt your sleep."

Anderson recommends a series of strategies to relax the mind before sleeping. These include reducing stress levels by developing effective coping strategies,

and breathing and relaxation exercises.

"If you are worrying about things during the night you have to deal with them earlier during the day so you are reassured that you are in control by the time you want to sleep," Anderson says.

"Uncertainty is a big cause of anxiety, the what-ifs, so it's best to put a plan in place for unresolved issues before you go to bed."

Relaxing the body is also effective in relaxing the mind, because each takes cues from the other, but Anderson warns it "takes time and practice" to achieve the desired effect through relaxation exercises.

Sleep deprivation has become such a significant issue in society that she has developed a one-day workshop to assist people to develop better sleep patterns.

She is also developing a relaxation app, a 21st century solution for a 21st century disease.

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Checklist for a good night's sleep

1. Cut down on caffeine and alcohol
2. Exercise during the day
3. Make sure bedroom is cool, dark and quiet
4. Develop a routine – go to bed and wake up at the same time each day
5. Remove all screens from bedroom – backlit screens give cues to the body clock that it is
6. Don't nap too long or too late during the day
7. Relax the mind – make a plan for dealing with any unresolved issues before going to bed
8. Relax the body – use rhythmic breathing and relaxation exercises
9. If all else fails, catch up on sleep at the weekend