Transcript

Safe Work Australia

Work-Related Fatigue and Job Design

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**Mark Goodsell**

Introduction, MC

**David Caple**

Facilitator, MC

**Panellists:**

Dr Carmel Harrington
Panellist

Professor Drew Dawson
Panellist

**Mark Goodsell:**

Welcome. I’m Mark Goodsell, New South Wales Head for the Australian Industry Group and a Member of Safe Work Australia.

Welcome to today’s panel session on work related fatigue as part of Safe Work Australia’s Virtual Seminar Series and National Safe Work Week for 2016.

First I’d like to acknowledge the traditional custodians of the land on which we meet, the Ngunnawal people, and recognise and respect their continuing culture and the contribution they make to this city and to this region.

Today’s panel discussion is about work related fatigue, fatigue in the workplace. I know many of you will deal with that issue of fatigue in your personal lives, and you’ll have strategies to manage it in your personal lives. But it’s also a very important issue in workplace risk. It doesn’t only impact on the workers’ mental and physical health, it can also impact on the health and safety of those around them in the workplace.

At work fatigue can be a function of many factors. It can be a result of mental and physical activity, organisational change, travel, exceptionally hot or cold working environments or work scheduling. It can be further compounded by personal and lifestyle factors such as sleep, health and family commitments.

Causes of fatigue can be short term or they can accumulate over time.

Every business and every industry is affected to some degree by fatigue, but there are some types of work and some sectors that have an inherently higher risk, particularly when you have shift work.

Work schedules such as shift work schedules can impact the time workers have to physically and mentally recover from work. As sleep and rest are the usual way that we recover from physically and mentally demanding tasks, it’s important that we get a good amount and good quality of sleep.

It’s important to understand that the length and quality of sleep time, and also the length of time since we last rested, can impact on a worker’s ability to perform efficiently, effectively and safely.

Under Australian work health and safety laws, everyone in a workplace has a responsibility to ensure that fatigue does not pose a risk to the health and safety of themselves or to others in their workplace.

In today’s discussion we’re going to explore some of the ways that fatigue in a workplace can impact on health and safety and how more effectively it can be managed.

We’ll explore the impact that sleep has on our physical and mental health, and how employers can design working hours and rosters that encourage good sleep and recovery opportunities for workers.

Our panellists will also take a look at the responsibility that employees have for making sure that their fatigue does not impact on the health and safety of others in their workplace.

I’m looking forward to hearing today from the evidence and the data that the panel can share with us to help us all understand the impact of fatigue better.

So without further ado, I’m pleased to introduce our panellists for today’s discussion. Dr Carmel Harrington is an Australian sleep scientist whose insights into sleep have helped improve the health and wellbeing of many Australians.

She is an Honorary Research Fellow at Westmead Children’s Hospital, and a founding member of the Australian Sleep Foundation. Carmel has also authored two books on sleep, bestselling books, *The Sleep Diet* and *A Complete Guide to a Good Night’s Sleep*.

We’re also pleased to have Professor Drew Dawson with us today. Drew is a Director of the Appleton Institute and an internationally acclaimed sleep scientist recognised for his work in the area of sleep and fatigue research, organisational psychology and human behaviour, and the human implications of hours of work.

Having worked extensively in a number of industries, Drew has instigated fatigue management programmes, particularly in the context of shift work.

Finally, today’s facilitator is internationally renowned Professor David Caple. David has over 30 years’ experience as an independent work health and safety consultant, and ten years in corporate and research employment. David is Adjunct Professor at the Centre of Ergonomics and Human Factors at Latrobe University, and a Senior Research Fellow from the Federation University in Ballarat. He’s also a certified ergonomist in Australia and in the US.

Would you please join me in welcoming our panellists today as I hand over to David.

(applause)

David Caple:

Thank you Mark. Firstly welcome to our large audience here today. Thank you for making the time to join us. Also welcome to those who are viewing online. This is part of the Virtual Seminar Series, and it’s a pleasure to facilitate this discussion about fatigue at work.

I’d like to maybe address my first question to Carmel, because of your extensive research on this area of sleep. Just for the audience, do you want to just highlight what have we learnt from the research in relation to sleep in the context of just what do we need in our general health and wellbeing? I’ve got a colleague who seems to get by on four to six hours a night. I need eight. Others need it at certain times of the day. I’m sure there’s a lot of individual variability, but tell us a bit about what the research has told us about sleep.

**Dr Carmel Harrington:**

We know from population studies that the recommended amount of sleep is between seven to nine hours, but it is an individual measure. So as you know, you need eight. I know I need eight and a half. So you sort of need to know what you need and try to get that.

But of course there are variations, genetic variations, and there’s a short sleep gene. So about three to four per cent of the community actually only need about five hours sleep to do everything that they need to do in sleep that we mere mortals need seven to nine hours sleep. So you need to be aware of what you need and try to get that. If not, you will be sleep deprived.

David Caple:

Mark also talked about the quality of sleep. Do you want to just highlight a bit about what do we mean by quality sleep?

Dr Carmel Harrington:

Well lots of us may spend a lot of time in bed and actually don’t feel refreshed when we wake up. It could be that there’s an underlying sleep disorder there, or indeed we spend three hours in the middle of the night awake. So time in bed is not necessarily a good indicator of the quality of sleep.

The big measure is that sleep is meant to make you feel refreshed and rejuvenated when you wake up, able to meet the challenges and the joys of the day. If you feel like that’s not happening, then maybe one of the things you need to be looking at is your sleep.

David Caple:

So the Segway is into what did we learn from this in relation to shift work. Have you got any particular areas of research in looking at the prevention of fatigue in how we approach shift work?

Dr Carmel Harrington:

Well we know that all of us will suffer mental and physical health consequences if we don’t get enough sleep, or we increase our likelihood of suffering those. This is a little bit more exacerbated in the shift worker, because not only do they generally get less sleep than they need, they also have circadian disruption because they have to work during the night hours. These two things combined seem to increase the likelihood of developing physical ill health or mental ill health.

Now the other thing with shift workers, anywhere between five to 20 per cent will develop something called shift work disorder. The hallmark signature of that is inability to get to sleep and/or to maintain sleep, and excessive sleepiness during the day which may not be connected to shift at all.

One of the reasons this is really quite a negative thing for the shift worker to develop is because it absolutely affects their quality of life and increases their chance of developing severe depression.

David Caple:

Drew, feel free to comment on your research on this relationship with shift work, but in doing so, do you want to talk us through about how we’ve tried to administratively manage it through originally this prescriptive approach towards shift work and movement towards a risk based approach? Maybe just tell us about your research in that area.

Professor Drew Dawson:

I think there’s been a trend perhaps for the last 20 years. Twenty years ago the assumption was that we will negotiate our rules of rostering, and that if we agree on a set of rules for rostering as part of our Enterprise Bargaining Agreement, then those rules will constitute a safe system of work.

I think what we saw historically happen was that third party representation rights disappeared from the Industrial Relations Commission back in the mid ‘90s, and there has been a lot of economic changes in Australia over the last 20 or 30 years.

The net result of that is lots of people agree to rules of rostering that are probably demonstrably unsafe. That is because either they wanted to make more money or the organisation wanted the productivity gains. From around about the Parliamentary inquiry in 2000 called the Midnight Oil Inquiry, there was a recommendation to the Government that we should approach shift work from a risk based approach. The idea behind a risk based approach is to say that effectively fatigue is with us always. It’s impossible to develop a shift work system that will have people not being fatigued.

The net consequence of that is there’s a fundamental shift. That is instead of thinking about I’m compliant with my rules of rostering therefore it’s safe, it’s about saying what’s the likelihood that my staff will be fatigued and what level of control do I need to implement within the workforce in order to manage that risk.

We’ve seen this shift to what’s called performance based approaches to safety since the Robens review in 1972, and it’s been a very long process. H.L. Mencken famously said ‘for every complex problem there’s a simple solution, and it’s usually wrong,’ and nowhere is that probably more relevant than the area of shift work and rules of rostering.

It’s been challenging for organisations to work out how to risk assess a roster and how to work out what controls I should or shouldn’t have in place. The reason for this is that the risk profile for different jobs can be quite different, and people don’t like sometimes the complexity associated with this.

David Caple:

So maybe Carmel if the comfort is to say ‘Well at least we’ve complied with the regulations,’ how do we address this individual difference that you’re talking about so that the individuals feel engaged in this process?

Dr Carmel Harrington:

See this is the real risk isn’t it? We can comply with regulation without engaging in the spirit of the regulation, which is actually to make us safer and the workplace safer. So how do we engage the individual? I think education is one of the keys.

People make decisions about the hours they work and the amount they sleep based on perceived economic and performance benefits. But they often make those decisions without being fully informed of the true cost. So I think it’s really important that we start to talk about the true cost and allow these people to make informed decisions.

Now I liken it to when – these days we might have a bar of chocolate or a piece of cake, but we know it’s wrong, it’s not good for us, but we’ll do it anyway. But lots of people are making decisions about sleep and their lack of without actually knowing the true consequences. So the very first step we need to do is engage them in that bit of information. Of course they can continue to make ill-informed and bad decisions from our perspective, but they may have very good reasons to ignore the information we’re telling them.

The other thing I think we need to do is engage people in education in modern technology. Not so many companies anyway actually provide education materials, and there’s little research to support that it works. But a lot of the education materials actually don’t get to the night shift worker, so how do we do it better? I think we can use mobile technology.

Apps have been developed. There was a study published last year with pilots, and it was an app education. So what they did is not only did they get information on sleep and fatigue management, but they were given a very practical application so they could key in when was your flight going, what time zones you’re going to move to, etcetera, etcetera. So they could organise their sleep, their fatigue management and their nutrition so that a better outcome.

What they found at the six month mark, the pilots had actually engaged – it was only 50 per cent they’d engaged, but the pilots that did engage actually had better fatigue management, better sleep quality and better nutrition. So we can do education better and we can engage the personal by making it personal.

David Caple:

Drew, do you want to comment on that?

Professor Drew Dawson:

I think there’s a couple of interesting points there. One I’d like to make is that the research tells us that half the time that somebody is fatigued in the workplace, it’s due to non-work related causes. They’ve been up with a sick child or they’re driving back from somewhere after a holiday.

Half the risk in Australian workplaces comes from factors that are under the control of the employees outside of the workplace. So I think one of the big areas, the low fruit here, is to start to think about how we manage that aspect of it. I think going back to Carmel’s point about education, if we look at what happened with alcohol and drug regulation from the ‘70s – I remember going to work in the ‘70s where drink driving was funny. We’ve gone through a process over the last 30 or 40 years where that’s fundamentally changed.

I think from an education perspective we need to say to people ‘This is how much sleep you need in order to work safely,’ in the same way as we say ‘You can’t have more alcohol or a certain type of drug in your system than this amount in order to work safely’. People will say ‘But we’ve had individual differences and there’s a short sleep gene,’ and all of that kind of stuff.

But I’m also going to make the point there are huge inter-individual differences in the effects of alcohol on people or drugs on their cognitive capacity or error rates. It doesn’t stop us as a community making that decision, and I suspect the research tells us that somewhere between six hours on a regular basis most people most of the time, if they fall below that threshold, will be at about double the risk of accident or injury. In a single night they go below five hours sleep, we can show measurable impairment that’s inconsistent with a safe system of work.

What’s really interesting is from a cultural perspective the argument that was put forward in the ‘70s is we can’t make blood alcohol 0.08 or 0.05 or 0.01, because everybody is different. We see exactly the same argument now with sleep, and my point would be we need to give people clear guidelines to say ‘If you’ve had less than this amount of sleep, tell someone’.

David Caple:

The ‘tell someone’ is the duty under the Act to look after yourself, look after your colleagues, inform your supervisor in the context of what may be happening out of work.

Professor Drew Dawson:

Yes. This has been a very controversial area, because under a lot of workplaces the culture is not such that that may necessarily be well interpreted. Our general recommendations to workplaces are you may report it to your supervisor and your manager on the day, but if it happens more often than one would expect, then that needs to be managed by an employee assistance programme or an occupational hygienist or somebody outside of the employee/supervisor relationship, mainly because the supervisors often aren’t sufficiently skilled and there are authority gradients and power differentials that make that a very complicated conversation.

David Caple:

So just in the context of those who do have to work 24/7 like medical specialists in the hospitals in acute care, you’ve talked about self-management of fatigue. Can you tell us a bit more about that and how that assists them with their cognitive performance in looking after us as a community member?

Professor Drew Dawson:

It’s a difficult area, but also one of the most exciting new areas in fatigue research, which is in many industries we don’t have an unlimited number of staff. So for example with some work we did for Queensland Health, we went to the community and said ‘How many hours do you think a doctor should work?’ and they said ’12 to 16 should be the maximum’.

Then we said ‘Well if we did that, we’re about 800 doctors short. Would you rather a tired doctor or no doctor at all?’ Of course overwhelmingly the community said ‘No, a tired doctor will be fine thank you’. So again it’s a really complex risk equation here that you need to think about. I think one of the things that we need to think about is for many organisations how to work safely whilst fatigued has become a very important area of redesigning workplaces in ways that people can work safely whilst fatigued.

Our research for example in the aviation industry shows that if the pilot tells the co-pilot or vice versa that the other person is fatigued, they’re much more likely to detect an error by that individual and therefore to reduce the risks associated with that.

Similarly in hospitals, if a team is doing a handover and lets other people know what the fatigue levels are, people unsurprisingly are more conscious of that. So we’ve been doing a lot of work in the last couple of years about how do you identify that you’re fatigued and how do you redesign the work task in ways that you can operate in what we call fatigue mode.

So building on the threat and error management literature, we have worked with a number of aviation partners, and they will say ‘at a certain level of fatigue we will operate in fatigue mode’. I won’t go into how we define that, but to say in very simple terms if you reach a certain level of fatigue on the flight deck or in the operating theatre, tell people and do things differently.

So surgeons will consciously slow down, and they will empower people to challenge them in the event that they make a mistake. So this redesign or re-proceduralisation of the workplace is a very significant way that we can reduce risk even when people are tired.

David Caple:

So Carmel, just in terms of say a simple analogy in the manufacturing industry where somebody does a particular sequence of tasks and they’re fatigued, what do you see in the research as the consequence to their behaviour when something goes wrong with that particular model?

Dr Carmel Harrington:

We know when we’re tired our ability to react to a new piece of information is quite impaired. So while we can do automatic tasks, A, B, C, quite comfortably, if we go A, B, C, F, we’re not quite sure how to incorporate F. So to put that in everyday language, many of us have driven home tired, and some of us may not remember how we got home because we’ve done the drive automatically. We do it. We can do it night after night. But if someone runs across the road or something happens, we can’t react to it because cognitively we’re impaired.

That’s what happens, and that’s why we have these people who do a job for 20 years really, really well and on one night an absolute catastrophe happens, because a new piece of information has come across.

So it really is important. I couldn’t agree more about alerting people about fatigue. We have conversations now about – in fact we applaud people who exercise and who are fit. We applaud people who have a good diet and eat good food, and we talk about it in the workplace. ‘I’m having a salad today,’ or ‘I’m doing this, that and the other’. We need to have a conversation around ‘I slept really well last night,’ and rather than it being a demerit because you haven’t slept well and ‘I’m going to have to be performance managed because I’m not sleeping well,’ the declaration that ‘I am taking my sleep seriously because I want to be the best version of me and be really productive and safe at work,’ should be an open conversation and one that we encourage.

The start of that is actually this fatigue mode, a declaration of ‘Okay, I’m too long on task, or I haven’t had the best lead up period to this. I’m fatigued. How are we going to best manage it?’ It’s an open conversation. We shouldn’t try to put it under the carpet, because that’s where big mistakes begin to happen.

David Caple:

So just in the context where you do have people who work night shifts regularly, there’s a lot of debate about should we allow them to nap or power nap or whatever the term is. What’s the research telling us about that?

Dr Carmel Harrington:

Napping is good for all of us. So we can all benefit from a brief nap of about 20 minutes. The reason we say 20 minutes is because we want to stay in the light sleep. We don’t want to get into the deep sleep which will increase the likelihood of waking up with sleep inertia, which is that feeling of disorientation and lethargy, and it takes some time to dissipate.

On balance the literature shows that a nap of 20 minutes in the early hours of the morning, probably between 1:00 and 3:00, are quite beneficial, and it will increase your alertness for a period of time. Naps taken after that time not as beneficial, and increase the likelihood of sleep inertia. Certainly napping can be used to good benefit for night shift workers, but also sleeping prior to your evening or night shift, because of course fatigue is not just a matter of sleep duration, but it’s length of time awake beforehand as well. So we can actually have either a short nap before our shift, or even a complete sleep of about 90 to 110 minutes.

Of course the caveat is always be aware of sleep inertia, and it might take up to 60 minutes for that to dissipate if you wake up from deep sleep.

David Caple:

You’ve done some research on this Drew.

Professor Drew Dawson:

Yes. I mean broadly speaking I would agree with what Carmel says, but one of the things that I think she hit on earlier which is quite important is the culture within the organisation. I think one of the things that’s important to understand is that many organisations, fatigue is what we call a forbidden topic or a taboo narrative. If you’re an anthropologist, these are the things that you can’t talk about. The reasons for this are simple. I’ve sat in many EBA negotiations and it’s ‘Don’t mention fatigue, because it’s going to cost 10 per cent in the next EBA or it’s secret code for overtime reduction strategy or many of the other implications of it’.

I think organisations need to think really carefully about this. One of the things that we’ve noticed is, in terms of understanding the risk profile of people in a workplace, just going to people and saying ‘Tell us the dumb stuff you do when you’re fatigued’. If you sit around with a group of ten of 15 people, they will tell you all of the dumb things that get done when people are fatigued, and that provides you a very good starting point to start to think about how could we redesign or re‑proceduralise so these are less likely to cause an accident or the consequences are reduced.

So I think it’s really important for organisations to think ‘How do we have this discussion? How do we embark upon this forbidden narrative?’ I guess my advice would be do it out of the context of the EBA. Our experience is once you’re in an EBA that’s a really bad time, because there are so many financial and cultural tensions around the topic.

The other point being is that if you do have that conversation outside of the context of the EBA, people are actually quite happy to talk about it. They’ll tell you all the dumb stuff they did and they’ll tell you how to fix it. But we just don’t allow that conversation to happen within our workplaces.

David Caple:

I suppose let’s talk a little bit about the white collar workers who don’t necessarily do shift work but experience fatigue. Have you got any evidence about fatigue in their industry sector?

Professor Drew Dawson:

Yes. Well not comprehensive evidence, but we’ve done a number of consulting and research jobs with big oil, and I remember very clearly the work with BP and Shell which showed that when we looked at fatigue related accidents, they were much more likely to happen for middle level managers, sales managers, people on the road, than they were to happen on the mine so to speak. That is unregulated working hours are much more likely to happen in junior and middle managers than they are in heavily industrialised workforces.

Again, because there aren’t Unions, there aren’t EBAs and there are staff contracts as they say, the coercive pressure of the organisation to work long hours can actually lead to quite unsafe work practices, particularly around extended commuting. So people will work their day and then drive to the next place they have to be the following day, and sometimes they can be clocking 16 to 20 hour days with extended commuting.

David Caple:

So Carmel with 16 to 20 hour days, I mean what’s the research telling us about our cognitive capacities?

Dr Carmel Harrington:

Well after about 16 or 17 hours your cognitive capacity is at the same level as 0.05 alcohol consumption. So clearly we’re not thinking very well when we have – our body clock is set up so that when we awake in the morning and expose ourselves to sunlight, about 16 hours later our body is ready to sleep. We seem to forget that sleep forms a vital function, and everyone wants to put sleep off. Everyone thinks ‘I haven’t got time to sleep’.

But we have such enormous cognitive deficits when we don’t sleep. Any performance gains that we think we’re making due to not sleeping and staying awake, are actually just in the air, they’re not actually happening. We don’t make performance gains.

To the point of what’s happening with the non-shift worker, with the rise of the mobile office, everyone’s available. We’ve all got our iPhone, we’ve all got our iPad. A study of Australian workers last year found that one in four day workers actually got less than the recommended seven to nine. One in four of the workers only sometimes got seven hours sleep, and one in four workers felt extremely tired or completely exhausted and thought it was really affecting their physical and mental health and their social interaction.

So it’s not just shift workers, and again the commuting that these people do at that level, they’re causing a lot of issues outside of their own particular selves.

David Caple:

So your research has looked at the influence of the 24 hour cycle in building these rosters. Have you got any advice in relation to roster structuring and the relationship to your research on sleep?

Dr Carmel Harrington:

There’s no silver bullet. Everyone knows that. There’s no silver bullet here. When we think about shift roster, the shift itself is not going to solve the problem because there’s so many other variables. So how long is the person’s commute to work? What’s their domestic situation? Do they have an underlying sleep disorder that’s not giving them good quality sleep? What sort of chronotype are they? Do they like mornings or do they like the evenings because we know that allows them to tolerate shift better?

So we need to keep that into account when we think about shift rosters, and put it in the design in a way if we can. We also need to realise that optimal shift time and work life balance for the shift worker may not play out against what’s best for the broader community, because the longer time on shift, if we have extended 12 hour shifts, we’re increasing the risk to the broader community when that person either is driving a big truck or a train or whatever.

So there is a tendency to the 12 hour shift length, and whether or not that’s a good thing or not is really to be debateable. Even though employees like it because it compresses their work week and gives them more time with their family, employers like it because it makes their shift rostering easier, but it actually increases their risk of injury at the end of the shift. So it’s all this sort of balancing.

But there are some things that we know about shift rostering and design that we’ve learnt over the last 40 years. This is a pretty new area of research – sleep, shift work, fatigue management. It’s only really been around for 40 or 50 years, and we’re learning a lot. We have to start implementing what we’ve learnt. So we know that fast forward rotating shifts probably work well, because they minimise or reduce circadian disruption, increase access increased sleep duration.

Morning shifts, early start morning shifts are to be avoided, because shifts that start before 7:00 o’clock in the morning actually decrease sleep duration because people have the imperative for staying up at night anyway and watching TV and socialising, and it actually increases sleepiness. So we shouldn’t start shifts too early in the morning.

A number of consecutive shifts in a row actually decrease alertness and increase sleepiness, and extending the 12 hour shift, so you do overtime at the end of the 12 hour shift, actually just increases your injury risk and should be avoided I think.

So it’s a complex balance of how we design shift rosters, but it’s also looking at the individual. So I’m going back to this individual story as well. So what are the particular vulnerabilities of the worker? So do they have an underlying sleep disorder? If they do, it needs to be addressed. So they will feel better about themselves, but they’ll be more productive.

The other thing we know over the years is that whether you’re an owl or a lark really affects your ability to tolerate shift work. Now giving the worker information about themselves, as simple as ‘Do you prefer the morning or do you prefer the night,’ actually engages the personal and may improve their uptake of fatigue management strategies, which we know is probably not as good as it should be. So engaging that personal is really important.

With shift design and rostering, we should put in things that we know work. So napping is something I think should be recognised in the workplace, especially at night shift. Good lighting as well, we know that can be alerting, and there’s some great emerging research coming out showing that the red wavelength, the warmer wavelength is alerting but doesn’t suppress melatonin as much.

So there’s lots of things we can do and there’s opportunities that we now have to start implementing things, but at the same time making sure the individual is engaged in this and we can move forward together. It’s not just the roster and it’s not just the duration of the shift, it’s not just anything.

David Caple:

I just wonder Drew, if you think back to the research over the 40 odd years, have we come a long way in this space?

Professor Drew Dawson:

Well I’m going to take a slightly different point of view, and say people have been sitting around trying to work out the perfect roster for about 80 years, and a lot of really smart people have sat down and they haven’t solved the problem yet. So maybe we need to think about this a bit differently.

Going back to what Carmel said earlier, I would make the suggestion that people need a working time arrangement, including shift work for operational needs. The secret is to then go back and say ‘How much sleep are you getting,’ and to get the answer to that question, and that can be done through both formal risk assessment techniques, but also by talking to people. I think if you’re finding that there are significant periods of time where people are averaging less than six hours a night, you’ve probably got a problem and you need to control those risks. If you don’t, then maybe it’s less of a concern.

But I have come to the point after 20 years of looking at this, the idea of thinking I can come up with a perfect set of rules that compliance will ensure safety, the research tells us that there is too much variability between individuals, between workplaces, between tasks for that to actually be an effective strategy. I suspect like many things in life we should stop banging our head against the wall, because it will feel really good when we do.

David Caple:

Let’s take a little rest from that and just see whether we’ve got any questions from the audience who’d like to contribute to our discussion this morning.

Would you like to just stand up and introduce yourself first?

**Q&A Session**

Q: Thank you. My name is Mark Smith, and I’m from Safe Work Australia. My question is from the perspective of businesses who are looking for quick wins. Now what are some of the easily fixed mistakes that you see around managing fatigue, from the perspective of these businesses?

Professor Drew Dawson:

I think the low fruit is around non-work related causes of fatigue. That is for many organisations wrestling with the roster and the EBA is a lot of pain for very, very little gain. On the other hand, thinking about the culture and saying to people ‘Tell us the dumb stuff you do when you’re fatigued and how can we stop that happening,’ asking them about how much sleep people are getting, enables organisations to do a pretty quick and dirty risk assessment and then to work out ‘Do I need a little bit of control or do I need a lot of control?’

I think there are enough tools around now in the marketplace that enable people to do pretty reasonable risk assessment, and to assess the likely effectiveness of controls. But I would qualify that to say that we haven’t done the research in enough detail to say ‘This control will work like this in your organisation’. For most organisations now, we’re recommending what we call post‑implementation surveillance. Put it in place and look at it. Don’t assume compliance equals safety, and don’t assume that a control will work just because you put it in place.

So that normal process of put it in place, evaluate it, corrective action and that do loop make a lot of sense, and enable you to deal with the complexity of workplace individual tasks etcetera.

David Caple:

Carmel, do you want to make any quick win comments?

Dr Carmel Harrington:

 I think with quick win sometimes, especially in the white collar worker, it comes from the head. So if your employer is deeming productivity equals time behind the desk, then you’re going to spend a lot of time behind the desk and you’re going to be sleep deprived. So really it means taking on board that probably somebody can’t work efficiently much more than 45 hours a week, so don’t expect your worker to do that, because you’re going to have burnout and all the consequences, lost productivity.

So I’d be looking at don’t wear lack of sleep on your heart as a badge of honour, because it isn’t.

David Caple:

You made the point before about the greyness between work and life balance. Do you see that as an emerging issue we need to think more about, particularly with the accessibility of technology?

Dr Carmel Harrington:

Absolutely. I do a lot of work with children and they observe their parents always on the iPhone or the iPad or whatever, and they deem success as this, and that’s what kids are doing, and we’re seeing right down to little ones not getting anywhere near enough sleep.

There’s a quote from one of the grandfathers of sleep that says that if sleep doesn’t serve some vital function, then it’s the biggest mistake the evolutionary process ever made. That’s true. We know that little kids need more sleep than big kids, and big kids need more sleep than adults. We’re seeing this complete greyness around sleep, because life is so exciting. We have a thing now called FOMO, fear of missing out. So even when you think ‘I’m not going to look at my emails until tomorrow morning,’ you might just sneak a look just in case you’ve missed out on something. Chances are the world is not going to stop or blow up because you haven’t looked at your email overnight.

So we’re losing our respect for sleep, and we’re losing the discipline around sleep. We had it 50 years ago, because 50 years ago if anyone rang your house up at 8:00 o’clock at night someone had died. They didn’t do it. At 12:00 o’clock at night the TV went off. They’d say ‘Goodnight from us and goodnight to you,’ and we had nothing to keep us awake. We would sleep. We don’t do it now, and we’re seeing the consequences.

David Caple:

Do you see these social pressures changing sleep?

Professor Drew Dawson:

Yes, but I think part of the thing is to respect those choices and to understand that in many cases the decision for a student to study all night and end up in a fabulous course and to have a fabulous career may be a good short term arrangement. I think part of the difficulty I see – and this is probably a little controversial – is that there is kind of a catastrophising that goes over sleep. I’d point out that anything that we do that’s important with sleep will be a very plastic behaviour, otherwise we wouldn’t have evolved to the point where we are.

So I think when we look at education programmes, I think telling people the world will end if they don’t sleep is a bit like telling kids ‘Drugs will kill you,’ and I think a harm minimisation model rather than a model of catastrophising it to people is probably likely to be more successful, because it allows people to say ‘Every once in a while I am going to stay up all night and party, and the effects on my social life will be fabulous’.

I’d also make the comment, and a couple of very famous sleep researchers have worked in this area, which is to say people slept a long time in the olden days because there wasn’t anything else to do. We used to exercise a lot, because we had to. That is the world is changing, and I suspect if you approach kids in particular, catastrophising sleep, they’re just going to look at you the same way that they do when you try to talk to them about drugs and alcohol and all of those kind of things. So I think it’s a complex cultural thing that we need to look at. I’d say the same thing with employees, is that sometimes going on a holiday and getting back the last thing before you start work does have advantages.

I think if we think about it from a harm minimisation perspective, we’re probably going to get a better reception than catastrophising, ‘The world is going to end’.

Dr Carmel Harrington:

Couldn’t agree more, but I think again along those same lines, information is key. Choose not to make the decision for all sorts of reasons. ‘I want to have the best party tonight, and I know alcohol interferes with my sleep but I’m going to have a drink anyway’. Make the decision, but make it on an informed basis rather than just thinking it’s okay, and ‘I’ve got no idea why I didn’t sleep very well last night,’ which is what happens with people.

So that level of information is really key, and again, you make everything dire and everything’s going to end, everyone switches off anyway. They don’t engage. So it’s not black and it’s not white, but information I think is key.

Professor Drew Dawson:

I think one of the other things that’s quite interesting is pay it back. Have a big night, pay it back. So catch up. Got to bed early the next night when that sleep was not displacing fun activities. I think that’s part of the challenge about how do we get people to think about it in a culturally sophisticated way that will actually result in behaviour change?

David Caple:

Another question. Yes?

*Q: Helen Righton. I’m also from Safe Work Australia. Just following on on that last point actually in terms of paying it back. How much? Is the research quantifying how much you need to pay back per hour missed, or any other way of knowing when you’ve actually caught up? How do you do it? How do you get that time?*

Professor Drew Dawson:

This is the good news. Everybody says you can’t pay sleep back. We ran a series of studies over the last five years where we sleep deprived people up to 48 hours of continuous sleep loss, and some went as far as 64 hours. All of those people returned to normal cognitive function with two nine and a half hour sleeps.

So you don’t actually have to – the body is very good at sleeping efficiently or sleeping faster as we like to say. So the good news is you don’t have to necessarily pay it back hour for hour. If you can that’s great, but we would suggest if you shorten your sleep by a certain amount, you probably only have to pay back half of that to regain the function, because there is some plasticity. If you’re tired, the brain sleeps faster.

That’s a controversial view, because some people want to catastrophise things. But I suspect if you pay it back at 50 cents in the dollar, you’re probably going to be fine.

Dr Carmel Harrington:

The point at which you know you’ve paid it back is when you feel well, you feel good. So you wake up thinking ‘I’m okay’. That’s really important. Sometimes we miss the most obvious. We talk about fatigue measures and risk, and that’s really important, but are you yawning? Are your eyelids drooping? Well chances are you’ve got a fatigue issue on your hands. Let’s make some things quite practical.

Say for example when we have young children or we’ve got a big exam or gone on a great party holiday, we come back or whatever and we feel really exhausted. Then we have a few sleeps and we feel good. We know we’ve rested sufficiently. But my thing though is too to realise on a regular basis what you ideally would require. Try to get it. Your body is really adaptable and it does adapt to situations, but if you get what you need on a pretty regular basis you’re going to be optimal health.

Professor Drew Dawson:

We have a very simple strategy which we’ll talk to people from a clinical perspective, is ‘Do you need an alarm clock to wake up?’ If you need an alarm clock to wake up, you’re not getting enough sleep. That’s a very simple way of making that decision.

David Caple:

So what about those of us that do need an alarm clock because we’ve got a long way to drive or we’ve got to catch an aeroplane?

Professor Drew Dawson:

Go to bed earlier. That’s not without its challenges, because there’s lots of fun things to do in the evening.

Dr Carmel Harrington:

But the other thing is too, I mean some people, they have a 4:00 o’clock flight to catch – you can’t catch a flight at 4:00 o’clock can you – but a really early morning flight, so they need to get up at 4:00 o’clock in the morning and they think they’re going to go to sleep really early. They go to bed say at 8:00 o’clock, 8:30 hoping to go to sleep, but at that point in time your circadian alertness is on the rise, so you are not going to fall asleep very easily. The longer you stay in bed not falling asleep due to your physiology of alertness, the more anxious you become. So you start producing these anxiety hormones, so you get the worst night’s sleep possible rather than the best night’s sleep possible.

So sometimes I think more practically is okay, you’ve got to make sure you go to sleep or go to bed after the peak of your alertness that night, and if you get a slightly shortened sleep that night, make sure you sleep more the next night. So it’s this idea of balance isn’t it, always.

Professor Drew Dawson:

I’ve been amazed when you go to China how many people sleep on the train that they got up early for. In fact if you catch many of the red eyes or the early morning flights on Qantas, you’ll see a lot of people sleeping. That’s not such a bad thing.

David Caple:

We’re running out of time, so I’m just wondering for each of you if you want to leave the audience here and watching online some key messages of where we are in 2016 at the moment on the research on fatigue management, shift work, work, sleep?

Professor Drew Dawson:

I think probably the single most important thing for an organisation to do is to say managing fatigue is not an industrial enterprise bargaining agreement issue, it’s actually a safety issue, and it’s okay to talk about it. Our experience is once an organisation makes the decision to talk about fatigue as a safety issue, they’re pretty good at solving it. It’s only when it gets tied up in money and productivity and all of those factors and becomes a forbidden narrative, that then everybody ignores it and it creates problems.

Dr Carmel Harrington:

I think maybe the take home message is not just about the employer providing a safe workplace, because most are engaged in doing that. It’s about the individual engaging as well in their own personal safety and fatigue management, because it’s a collaboration between the two. We can’t have someone saying ‘This is what you’re going to do,’ because we’ll find ways around it. So let’s engage the individual in the whole story and we may well move forward with fatigue management.

David Caple:

Great. So thank you for the studio audience for your interest and participation, and thank you to all those that are watching us online. Thank you to Drew and thank you to Carmel. I’ll ask you to join me to thank you together. So thank you very much.

(applause)

[End of Transcript]